

MODERN GEOGRAPHY.

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IN a copious Introduction is explained the scientific principles of Geography, which are applied to the general circumstances of the globe, independently of local descriptions or particular forms of policy. The component parts of the terrestrial surface, the nature of their productions, and the state of their inhabitants, will constitute the topics of subsequent description.

To present these views with adequate perspicuity, and consonantly with the improved state of our knowledge, division and subdivision of the surface are indispensable. The early geographers were acquainted with the *Ancient Continent* only, frequently called the *Old World*, and comprising Europe, Asia, and Africa, with the adjacent islands. These appellations modern writers have still preserved. Homer, Hippocrates, and other authors of antiquity, however, acknowledged but two divisions of the world; Europe, denoting the regions north and west, and Asia, embracing those south and east.

Modern discovery has not only enlarged the sphere of geography, by exploring the more distant and obscure parts of the Old World and its islands, but it has added a new hemisphere in the western continent of America. Emboldened by success, the navigator launched into the vast Ocean that separates Asia from America, and discovered the numerous islands which diversify and adorn the great Pacific. Hence a classification of these islands, under general terms, became necessary to the perspicuity of geographical delineation; and the titles of *Australasia* and *Polynesia*, first proposed by *De Bröses*, have therefore been adopted by the most eminent geographers of the present age. The former includes New Holland and its surrounding islands; the latter, the various groups spread over the great South Sea.

Of these *six* grand divisions of the terrestrial surface, Europe, as the region where all the powers and energies of man are most pre-eminently displayed, merits the first place. Asia, the parent of nations, and the cradle of civilization, claims the second; while the early discovery, the ancient renown, and the contiguity of Africa to Europe and Asia, give it the preference to America. We shall, therefore, arrange them in the following order. First, *Europe*—Second, *Asia*—Third, *Africa*—Fourth, *America*—Fifth, *Australasia*—Sixth, *Polynesia*.

EUROPE.

GENERAL VIEW.

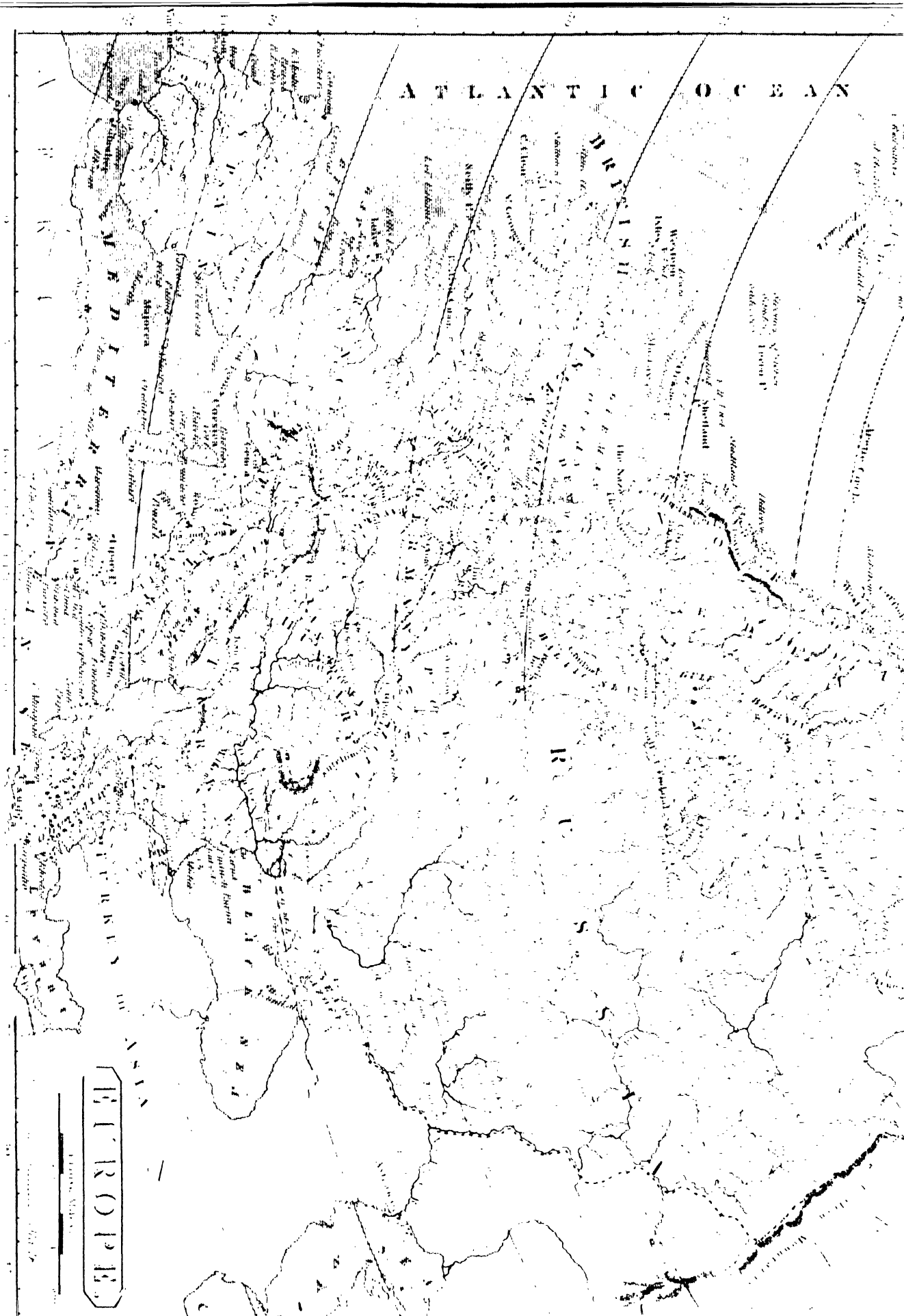
Name—Boundaries—Situation—Extent—Population—Progressive Geography—Seas, Bays and Gulfs—Peninsulas—Surface—Mountains—Lakes—Rivers—Islands—Climate and Seasons—Soil—Original and Comparative Population—Governments—Religion—Languages—Present Division.

EUROPE, though it is the least of those four great divisions of the globe to which geographers have applied the name of Continents, holds the second place in the scale of population, and the first in importance, whether considered with respect to itself, or to its influence on the rest of the world. It is the theatre most crowded with civil and political events. Here the moral perceptions, the mental powers, and the physical energies of man, have made the greatest progress; here, arts, sciences, and civilization, have flourished, and continue to flourish, in unrivalled splendour;—and here, too, man enjoys all that superiority which these attainments so pre-eminently confer.

Notwithstanding all the learned research employed on the subject, the origin of the word EUROPE is still uncertain. *Bochart*, indeed, derives it from the Phœnician word *Ur-appa*, signifying the land of fair people, as contrasted with the sable Africans; but this is a fanciful etymology. The appellation, however, was early applied to a small district on the northern shores of the Hellespont, whence it spread over new regions, as they became added to those which were previously known under that denomination.

The general BOUNDARIES of Europe are—the Mediterranean Sea on the south, the Atlantic on the west, and the Arctic Ocean on the north. Its eastern limits are not so well defined. The Uralian mountains stretch along the latter, to the 56th degree of latitude, from which an arbitrary line connects it with the majestic Volga, whose waters wash its confines till their approach to the Don. The separation is then continued in nearly the same direction as this river, which completes the boundary to the Sea of Azof. It then passes through the Black Sea, the Hellespont, the Sea of Marmora, and the Dardanelles, to the Mediterranean. Besides the continental territories included within these limits, the general appellation of Europe embraces many insular tracts in the adjacent seas.

Europe is principally SITUATED within the northern temperate zone, a small part only stretching beyond the Arctic circle, and penetrating the rigours of the frigid regions. It occupies the north-west part of the old continent, extends from the 36th to the 71st degree of north latitude, and from the 10th degree of west,



to the 62nd degree of east longitude, from the first meridian of Great Britain. Its greatest EXTENT, in the direction of the meridians, is about 2400 English miles, and from east to west, nearly 2200; but from the south-western point of Portugal, to the north-eastern boundary of European Russia, the distance exceeds 3400 miles. The figure of Europe is so irregular, and its outlines are so indented with seas, bays, and gulfs, that it is difficult to estimate its superficial extent with accuracy, but it is calculated at about 225,000 square geographical leagues, or 2,700,000 square English miles. The POPULATION being computed at 185 millions, there will be 822 inhabitants to each square league, and nearly 69 to each square mile.

In elucidating the PROGRESSIVE GEOGRAPHY of Europe, it may be observed, that to the ancient Greek and Phœnician geographers, the greater part of this continent was a complete *Terra Incognita*, and the reveries in which they indulged, relative to its scenery and inhabitants, only show that their imaginations supplied the place of experience, and that fable was consequently substituted for fact. Their real knowledge must have been chiefly confined to the southern and western regions; for the maps of Ptolemy, which during many ages constituted the standard of European geography, strongly evince the imperfection of his ideas with respect to the other districts. The Romans had conquered Spain, Gaul, part of Britain, and Germany south of the Danube. Their ships had also explored the western coasts, entered the Baltic, and traced its southern shores as far as the mouth of the Dwina. But the regions between the Baltic and the Danube, the mountains of Caucasus, and the Arctic ocean, with the wide-stretching peninsula of Scandinavia, were enveloped in the greatest obscurity. Charlemagne, Alfred the Great, and others, about that period, not only elucidated the geography of Europe as it then existed, but endeavoured to enlarge its boundaries. The invention of Printing gave additional facilities to improvements of this kind; yet the wide extent of the Russian Empire was unknown to most of the other nations of Europe till the 16th Century; and even the real form of the Caspian Sea was not ascertained till the early part of the eighteenth. It is to the ambition of princes, the spirit of commercial enterprise, and the exertions of modern travellers, that European geography is indebted for its present accuracy. Any account of these efforts, however, either in removing error or eliciting truth, belongs more properly to the descriptions of particular countries.

The facility of communication afforded by inland SEAS, BAYS, and GULFS, has contributed much to the diffusion of knowledge, the improvement of commerce, and the general superiority for which the inhabitants of Europe have long been so pre-eminent. These, consequently, demand attention in a general view of this Continent. On the western shore, and about the 36th degree of north latitude, a deep Bay leads to the Strait of Gibraltar, and thence to the *Mediterranean Sea*; a name bestowed by the ancients, from an idea that it occupied the middle of the habitable world. This sea forms a conspicuous feature in the geography of Europe, from its extent and situation, as well as from its intimate connection with the most renowned empires and states of antiquity. It was on its shores and its islands, that the plastic forms of Grecian genius were embodied in such variety—that valour assumed its noblest mien—and patriotism its highest character. It was here that *Tyre*, the ancient queen of the Ocean, swayed her sceptre—here that the renowned Carthage, which so long contested the empire of the world with imperial Rome, had its seat; and even here the “eternal City” of the Roman orators, and the focus of that dominion they vainly hoped was to last for ever, reared its proud domes. From the Straits of Gibraltar, the Mediterranean stretches to the western confines of Asia, through about 42 degrees of longitude, or nearly 2000 English miles; while its

breadth varies from 200 to 600 miles. Taking the medium breadth, therefore, it may be considered as occupying a superficial extent of about 66,000 square leagues. Its surface is diversified and adorned with numerous islands, and its shores are inhabited by various nations. Its tides are scarcely perceptible, except in straits, and the supply it receives from rivers not being equal to the consumption of its waters by evaporation, a current, which Dr. Halley computed at 3408 millions of tons per day, constantly flows from the Atlantic, through the Strait of Gibraltar, and another from the Black Sea, through the Dardanelles, to supply the deficiency. The current from the Atlantic proceeds along the European shore, till, weakened by its progress, and meeting with that from the Archipelago, their united waters sweep round the island of *Candia*, and thence along the African coast. This sea is stored with various species of fish; but the most productive fisheries are those of the tunny, the sea-dog, the sword-fish, and the anchovy. Coral and sponge are the chief submarine products of the Mediterranean; the best species of the former being found near the southern shore, and of the latter in the Archipelago.

On the north side of the Mediterranean, the *Gulf of Venice* and the *Archipelago* stretch far into the Continent. The one separates the shores of Italy from those of Dalmatia and Albania, and is frequently called the Adriatic; the other divides Greece from Asia Minor, and was the *Ægean Sea* of the ancients. The Strait of Gallipoli, also called the Dardanelles and Hellespont, connects the Archipelago with the Sea of Marmora, which is about 90 miles in length, and 45 in breadth. The *Strait of Constantinople*, the ancient Thracian Bosphorus, joins the *Sea of Marmora*, and the *Euxine*, or *Black Sea*; an appellation supposed to be derived from the colour of its rocks, and the danger of its navigation. Its greatest length, which is from east to west, is nearly 700 miles, and its medial breadth, from north to south, about 300. The ancients supposed this sea to have been a large lake, the accumulated waters of which forced themselves a passage into the Mediterranean through the straits above-mentioned. No historical testimony, however, has been found to establish the truth of this supposition; and it is more natural to conclude, that the existence of these straits is coeval with the basin of that sea, or the beds of those large rivers, which pour their liquid contributions into its bosom. The waters of the Black Sea are rendered less salt than those of the Mediterranean, by the vast supplies the rivers afford. It is remarkable for the density of the fogs which frequently hover over its surface, and the storms by which it is agitated. The jealousy of the Turkish government, however, is the chief obstacle to its more complete navigation. From its northern shore, the *Strait of Caffa* (the Cimmerian Bosphorus of ancient authors,) admits the mariner to the *Sea of Azof*, which is nearly 200 miles long and 100 broad. The shallow and muddy nature of this sea obtained it the name of *Palus Meotis*, or a marsh; and its present depth does not exceed eight fathoms.

Proceeding northward from the strait of Gibraltar, the *Bay of Biscay* forms a large opening between the northern shores of Spain and the south-western coast of France: thus, with the opposite approach of the Mediterranean, peninsulating the south-western portion of Europe. This Bay is remarkable for the peculiar swell of the sea, by which mariners, without any other indication, know when they have arrived at certain latitudes. Still further to the north, the *British Channel* separates England from France, and forms a communication between the Atlantic and the *German Ocean*, or *British Sea*; an appellation derived from the shores by which it is bounded. *St. George's Channel*, or the *Irish Sea*, flows between England and Ireland, and opens a communication with the North Sea, to the west of Scotland.

About the 57th degree of north latitude, the ocean again penetrates the continent. A narrow and winding channel, towards the south-east, leads into the *Baltic Sea*, which, after expanding in width, and stretching towards the north-

east through about five degrees of latitude, separates into two branches ; the *Gulf of Finland*, extending to the east, and terminating near St. Petersburg, about the 30th degree of east longitude ; and the *Gulf of Bothnia*, running northward beyond the 56th parallel. The whole length of this sea, therefore, exceeds 600 miles, while its breadth varies from about 80 to 150 miles, and the surface has been computed at 10,000 square leagues. The importance of this vast opening into the northern regions of Europe will at once be admitted, when it is considered that it washes the shores of Denmark, Germany, Prussia, Russia, and Sweden. The medium depth of the water is from 15 to 20 fathoms ; but in many places much less. The proximity of the coasts and islands, the shallowness of the waters, the flatness of the Prussian shore, and the ruggedness of the Swedish, in addition to the frequent storms to which it is subject, render its navigation dangerous. Tides are scarcely perceptible, and the waters are colder, and contain less salt than those of the ocean. The Baltic is generally frozen for three months in the year, so as not only to prevent navigation, but frequently to admit of a passage over the ice, from Sweden to Finland. In February, 1814, *Mr. James* crossed from the one coast to the other in a sledge. The passage was effected by the island of Aland, between which and the nearest shore of Sweden is a channel of 40 English miles in breadth. The route subsequently lay through the chain of islands which connects Aland with the Finnish coast. “ Our road,” says Mr. J., “ was an undeviating line from place to place, no obstacle presenting itself : we passed over the fields, through the woods, across the ice ; hill and dale, land and water, were all alike : sometimes we traversed the rocky channel of a deep-bedded river, at other times wandered among the inlets of a lake, at others again steered our way between the islands, over the sea.” In the southern part, the ice usually breaks up in April ; but the Gulfs of Bothnia and Finland are seldom clear before the middle of May. The copious rivers which empty themselves into the Baltic, with the diminished evaporation of these high latitudes, occasion a current to flow from that sea into the ocean. The depth rarely exceeds 50 fathoms ; and even this is supposed to diminish about four feet in a century. It contains few fish ; but is diversified with numerous islands, especially near its western extremity. The northern part of the Strait leading to this sea is the *Skager Rack* ; the southern, the *Cattegat*.

The *North Sea*, or *Arctic Ocean*, encompassing the North of Europe, is a reservoir of incalculable masses of ice, the very fragments of which, floating on the bosom of the deep, are sufficient to astonish and appal the mariner. Yet, even from this apparent storehouse of desolation, the prolific hand of Providence pours forth abundance. Innumerable shoals of fish annually proceed from these dreary domains, to supply the necessities, and administer to the luxuries, of man. Herrings, in countless myriads, are supposed to issue from these regions about the middle of winter, and arrive on the British shores in April and May. Their progress is marked by a brilliant reflection, and a rippling of the water, which frequently extends for miles without interruption. Their march is attended by the whale, the shark, and others of their voracious enemies, and accompanied by prodigious flights of sea-fowls. It is the opinion of some zoologists, and, among them, of Mr. Pennant, that millions of these herrings regain the Arctic Ocean, and deposit their spawn, about the month of October. This statement, however, has been doubted by those who, comparing the length of the migration with the time assigned for its accomplishment, conceive themselves justified in asserting its impossibility. To account for the absence of herrings during the winter months, they suppose them to retire to the recesses of the ocean, near the places they frequent in summer : whence, with the return of the vernal season, they ascend to enjoy the surface and shallows. The mighty monsters of the arctic deep, who roll their vast bulks among the

ice-bergs, also afford an extensive source of national industry, and individual emolument; and numerous vessels annually brave all the rigours of the polar skies, and the dangers of the floating ice, in pursuit of this monarch of the seas. A more lively idea of the scenes that are displayed, and the dangers experienced, by these hardy sons of Neptune, will be conveyed by the annexed plate, than by any verbal description.

On the north of Russia, a vast gulf extends through many degrees to the south, and is denominated the *White Sea*, from its frozen appearance. This sea is blocked up with ice during several months in the year; and is much less visited since the commerce of Archangel, its principal port, has been in a great measure supplanted by that of St. Petersburg. It contains several islands, but their descriptions would be brief and unsatisfactory.

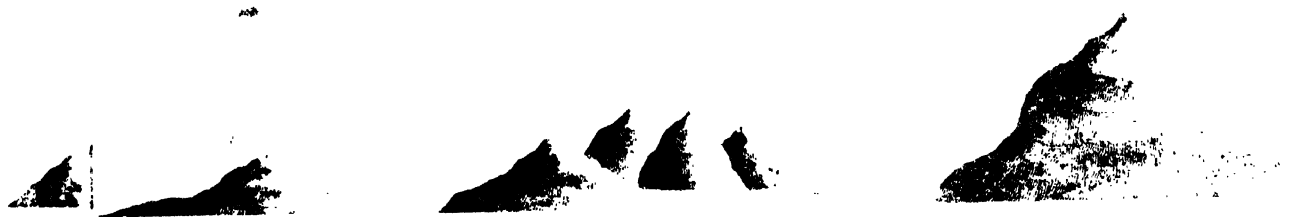
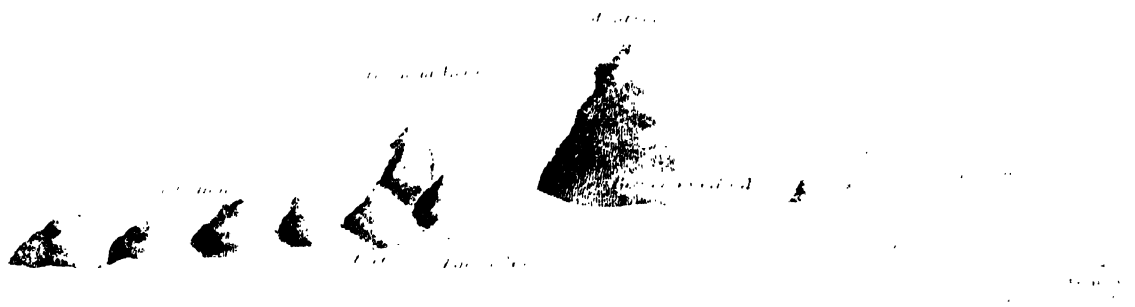
While enumerating the distinguishing circumstances of the European seas, the situations most frequented by the finny tribes, increasing at once the means of national industry, and the stock of human sustenance, should not be omitted. Theory and experience equally establish the unevenness of the submarine bed; and whilst some of these mountains emerge from the bosom of the ocean, and constitute islands, others are still hidden beneath its surface, and, covered with sand, form banks and shoals. Nature has manifested the same diversity in the propensities she has bestowed on the animals that people the liquid element, as in those which traverse the earth, or float in the air. Some delight in the banks and shallows, while others prefer the deeps, which separate these from each other. The Goodwin Sands, off the east coast of Kent, are the nearest of these shoals to the British shore; but they are more dangerous to the mariner than inviting to the fisherman. The principal fishing station in the British sea is the *Dogger Bank*, commencing about 12 leagues from Flamborough Head, and stretching more than 70 leagues towards the coast of Jutland. Turbots, soles, and other species of fish are numerous on this bank, south of which are the silver pits of the fishermen, where large supplies of cod are daily caught for the London market. Off the shores of Holland, the eastern coasts of Scotland, and the western verge of Ireland, several banks occur which afford good fishing stations. Other shallows are found near the coast of Jutland; and the *Jutts-riff* stretches like a crescent from the mouth of the Baltic Sea into the German Ocean. The coast of Norway likewise affords stations, on which almost any quantity of fish, especially cod, may be taken at pleasure. An immense bank, covered with fish, and extending from Papa Westra, in Orkney, along the west coast of the Shetland Islands, has lately been discovered. The success has already been great; and the fishermen report that from 150 to 200 vessels may fish upon it, without being in sight of each other.

The Inland Seas, Bays, and Gulfs, above described, penetrate the land, and divide it into portions which rank among the natural divisions of the terrestrial surface. The chief PENINSULAS presented by the European continent are the following. In the sea of Azof, the last of the basins connected with the Mediterranean, we find ourselves considerably approximated towards the Arctic Ocean, from which the *White Sea* extends many degrees southward. The principal part of Europe, encompassed by the sea of Azof, the Euxine or Black Sea, the Mediterranean, the Atlantic, and the Northern Ocean, as far as the *White Sea* inclusive, may, therefore, be regarded as a vast peninsula. Independently of this, however, by following the northern shores of the Mediterranean and its adjacent seas, and thence through the Strait of Gibraltar to the Frozen Ocean, we shall find the following Peninsulas, in the order in which they are enumerated.

1. The *Crimea*, between the Black Sea and the Sea of Azof.
2. *Greece*, between the Archipelago and the Mediterranean. This peninsular

Two small boats in the bay, with the cliffs of the island in the background.





portion of Europe is terminated by the *Morea*, the ancient Peloponnesus, which forms a second peninsula, connected with the former by the isthmus of Corinth.

3. *Italy*, between the Mediterranean Sea and the Gulf of Venice.

4. *Spain* and *Portugal*, comprehended by the Mediterranean, the Atlantic, and the Bay of Biscay.

5. *Jutland*, between the German Ocean and the Cattegat.

6. The country comprising *Norway*, *Sweden*, and *Lapland*, between the Baltic, the Cattegat, the North Sea, the Frozen Ocean, and the White Sea. This portion embraces the most northern point of Europe, as the Spanish peninsula does the most western.

In the aspect of its GENERAL SURFACE, Europe presents all the varieties which diversify the other quarters of the globe; but they assume less of that terrific grandeur which distinguishes the tremendous masses in the eastern parts of the Old Continent, or the stupendous forms that characterize the equatorial regions of the New World. The best idea of the declivities, which this diversity creates, will be obtained by attending to the course of the rivers, and marking where they separate to pursue opposite directions. These are the most elevated districts; and, in conjunction with the features already described, will afford clear conceptions of the form which nature has bestowed upon our Continent. Europe may be traversed nearly from one extremity to the other, without crossing any considerable river. This ridge, therefore, divides its surface into two inclined planes, the waters of the one descending into the Mediterranean and the Black Sea; of the other, into the German Ocean and the Baltic. This we shall readily perceive, if, on a good map, we commence an imaginary route at the Uralian mountains, about the 61st degree of latitude, and follow the leadings of the ridge. In crossing Russia and Poland, it passes Moscow, Smolensko, and Minsk, and traverses Galicia, to the Carpathian mountains, near the source of the Vistula. Pursuing the windings of that chain, and bending towards the south-east, we sweep round the lake of Constance, and ascend the majestic Mount Gothard, thence, descending, we reach the Cevennes, which, in connection with the Pyrenean chain, conduct us to the Bay of Biscay.

This line of superior elevations becomes more winding, steep, and rugged, as we approach the south-western parts of the Continent. The greatest diversity of surface, as well as the most elevated and abrupt mountains, are in this quarter. The most extensive plains are towards the east, for the distinguishing features of European Russia, especially in the central and southern parts, are extensive plains. A momentary glance at the subjoined plate, containing sections of Europe, and perspective views of the adjacent mountains, will afford the reader a clear view of its general surface. No. 1 is a section from the North Sea to the Mediterranean, commencing at Hamburg, and terminating at the Gulf of Genoa; and shewing the comparative heights of the Carpathian chain, with the most elevated point of the Alps. No. 2 is a section from the Baltic to the Black Sea, commencing at Memel, and terminating near Odessa. It affords a striking contrast to the other section. Each comprises 9 or 10 degrees of latitude; the one running nearly north and south, the other inclining a little towards the east. No. 3 presents views of detached mountains and chains, which could not be included in the former sections; and though the celebrated Peak of Teneriffe is not a European mountain, it has been introduced for the sake of comparison.

It will readily be conceived, that the two grand declivities into which the greater part of Europe is divided by the ridge of high land, running from north-east to south-west, are subdivided, by the hand of nature, into others of less extent. These form the basins of the large rivers which pour their accumulated waters into the ocean; and, therefore, by following its shores, and marking the principal rivers

which fall into it, we shall easily ascertain the declivities of the basins in which these waters are collected. With this view, we shall suppose ourselves coasting along the Atlantic, the Baltic, the Mediterranean, and the adjacent seas, and observing these features as we pass. Commencing at the Straits of Gibraltar, and proceeding to the entrance of the Baltic, we shall perceive—

The <i>Guadalquivir</i> ,	}	The courses of which are comprised in the western part of the Spanish Peninsula, and terminate in the Atlantic Ocean.
The <i>Guadiana</i> ,		
The <i>Tagus</i> ,		
The <i>Douro</i> ,		
The <i>Garonne</i> ,	}	Which pour their tributary waters into the Bay of Biscay.
The <i>Loire</i> ,		
The <i>Seine</i> ,		
The <i>Rhine</i> ,	}	The first of these traverses the Lake of Constance, and all empty themselves into the German Ocean.
The <i>Weser</i> ,		
The <i>Elbe</i> ,		

The Northern Peninsula, comprised between the North Cape and the Cattegat is intersected by a chain of mountains nearly parallel to the shore, and too near to allow of large rivers. Nor does the Frozen ocean receive any extensive river between that Cape and the Gulf of Lapland, or White Sea. We then observe

The *Dwina*, which falls into the White Sea.

The *Petshora*, Terminating in the Arctic Ocean.

The basin of these two rivers embraces all the northern part of European Russia, beyond the 59th or 60th degree of latitude, and which therefore inclines towards the north.

On entering the Baltic, and proceeding along its southern coast, we meet with

The <i>Oder</i> ,	}	The two grand rivers of the Prussian dominions, which mark the general declivity of these towards the north.
The <i>Vistula</i>		
The <i>Memel</i> , the upper part of which is called the Niemen.		
The <i>Duna</i> , which falls into the Gulf of Riga.		
The <i>Narva</i> ,	}	Both entering the Gulf of Finland.
The <i>Neva</i> ,		

These last rivers have only a short course; but are included in this enumeration, because the one connects the Gulf of Finland with Lake *Peypus*, the other, the same gulf with Lake *Ladoga*; and both these lakes receive rivers of considerable magnitude.

In the northern part of the basin of the Baltic,

The <i>Kemi</i> ,	}	Both descending from the mountains of Lapland, into the Gulf of Bothnia.
The <i>Tornea</i> ,		

The western part of the same basin receives several streams, but all inferior to the preceding.

Recommencing our supposed voyage at the entrance of the Mediterranean, and proceeding along its northern shores, we find

The *Ebro*, in the eastern part of Spain.

The <i>Rhone</i> ,	{	which traverses the lake of Geneva, and falls into the Mediterranean, at the Gulf of Lyons.

The *Po*, discharging the waters of its confluent streams into the Gulf of Venice.

The Italian Peninsula is intersected by the Apennines, and the breadth is insufficient to allow of large rivers.

The *Marissa*, which falls into the Archipelago.

Then entering the Black Sea, and proceeding along its northern shores to the Sea of Azof, we meet with

The <i>Danube</i> ,	}	All large rivers, falling into the Black Sea.
The <i>Dniester</i> ,		
The <i>Bog</i> ,		
The <i>Dnieper</i> ,		
The <i>Don</i> , which terminates in the Sea of Azof.		
The <i>Kuban</i> , flowing into both the Sea of Azof, and the Black Sea.		
The <i>Volga</i> ,	}	Pouring its waters into the Caspian Sea : and, though ter-
		minating its protracted course in Asia, justly regarded as
		a European river, since the greater part of it belongs to that Continent.

Having indicated the declivities, as marked by the principal rivers of this Continent, the ranges of MOUNTAINS, which separate them from each other, next demand attention. The most celebrated are the Alps, the Pyrenees, and the Apennines, in the south ; the Carpathian mountains, towards the centre ; the Norwegian chain, in the northern Peninsula ; and the Uralian mountains, between Europe and Asia. A brief description of each shall be given.

The ALPS, which are the highest and most celebrated mountains in Europe, derive their name from the *Celtic* word *Alp*, or *Alb*, signifying *high*. This stupendous chain divides Italy, on the north, from Germany, France, and Switzerland. It stretches in a crescent-like form, from the Gulf of Genoa to the top of the Adriatic. Its length is about 600 miles, and its breadth, in some places, exceeds 100 ; the whole comprising various chains, or branches, broken into lofty peaks, and divided from each other by narrow vallies, and dreadful chasms, several thousand feet deep. Many of these stupendous masses appear like mountains piled upon mountains, till their summits rise above the clouds, and resemble islands emerging from the bosom of the ocean. These are chiefly from 4000 to 12,000 feet above the level of the sea ; and present a series of summits, the highest of which are clad with perpetual snow. The most rugged parts of this chain are those between Savoy and the Vallais, among which Mont Blanc, the monarch of the group, rears his lofty head to the height of 15,660 feet, and may be seen from Dijon and Langres, at the distance of 140 miles.

From these elevations, numerous lakes, and some of the principal rivers, of Europe derive their origin. Down their steep and craggy sides descend impetuous cataracts, the sources of which being often above the clouds, their waters seem to be poured by supernatural agency upon these rocky heights, whence they dash along their deep-worn channels to fertilize the plains below. The lower parts of the mountains generally abound with woods and pastures, remarkable for their luxuriant verdure. The middle regions, to which the herdsmen and shepherds resort with their cattle and flocks during summer, produce a great variety of odoriferous herbs, plants, and shrubs, and are enriched with excellent springs ; while the upper division is chiefly composed of rugged, and almost inaccessible rocks, either presenting their bold summits to the fury of the elements, or hiding them beneath perpetual snow. In ascending the Alps, the curious traveller experiences all the varieties of European climate, and the four seasons of the year are found to exist, simultaneously, within a small space of each other. Even summer and winter seem to lose their usual animosity, and to reside together like amicable neighbours ; for a few paces conduct from the wild flowers of the one, to the undissolved snows of the other. Many parts of the Alps, particularly the middle regions, are subject to violent storms, the effects of which on the northern branches are often tremendous. In the course of a few hours, these dreadful hurricanes, called *acirs*, frequently fill the ravines, obliterate the paths and precipices, cover the villages, and bury the inhabitants beneath the snowy ruin, till a communication

can be opened with their neighbours; which is sometimes done by excavating arches under the snow. How wretched the traveller who is thus overtaken at a distance from shelter! His path is no longer visible; the precipice and the plain cannot be distinguished from each other; if he stand, he is frozen--if he proceed, he is buried beneath the wintry deluge. In summer, the thunder bursts with tremendous fury, accompanied by violent hail-storms, that often injure the flocks, and destroy the hopes of the blooming year.

Next in celebrity are the **PYRENEES**, which separate France from Spain, and extend from the Mediterranean to the Bay of Biscay, a distance of about 210 miles. Their breadth varies from 50 to 100 miles. This chain does not attain the height of many of the Alpine summits. The highest peaks, however, which are situated near the middle of the chain, are about 11,000 feet above the level of the sea. The composition of these mountains is also different from that of the Alps; as they not only contain calcareous matter, but large masses of sea-shells and other marine substances. The northern and eastern parts are the most smooth and fertile; while the south and west exhibit the sterile and rugged scenery that characterize the higher Alps. In both these chains, nature has been frugal of her mineral treasures; but fine red marble, spotted with white, is found in many places in the Pyrenees, though the general colour of the stone is grey. These mountains have their glaciers, and are subject to the impetuous descents of those vast masses of snow, denominated *Arvalanches*, which seldom fail to carry destruction in their progress.

The grand and extensive ridge of the **CARPATHIAN MOUNTAINS** extends in a semicircular form, from the southern point of Silesia, about the 46th degree of north latitude, and the 23rd of east longitude, to the north and east of Hungary, sending off branches to Transylvania and Walachia. The whole length of this chain is about 500 miles; but its highest summits do not exceed 8000 or 9000 feet, and few of them reach this elevation. They present neither glaciers, nor any of the other features of perpetual winter. The original name, which is still retained by the Germans, appears to have been *Krapak*, softened, by the Romans, into the present appellation. These mountains, clothed with extensive forests, particularly of pines and firs, which adorn many of the summits, are enriched with a variety of valuable minerals.

Ancient Scandinavia is divided from north to south by an extensive chain, denominated the **NORWEGIAN MOUNTAINS**, separating Norway from Sweden. These commence about the 59th degree of latitude, and spread nearly 10 degrees towards the north. The highest summits are inferior in elevation to those of the Pyrenees, and perhaps to those of the Carpathian ridge; but they derive from their northern situation all the terrific insignia of perpetual winter. Forests of pine, which luxuriate in the rigours of a cold climate, adorn their sides to a considerable height, furnishing inexhaustible stores of valuable timber for the more southern countries of Europe. The Norwegian chain also yields marble, iron, copper, and other useful minerals, the enumeration of which will be more appropriately introduced into our account of Sweden.

From the 50th to the 67th degree of latitude, the **URALIAN MOUNTAINS** constitute the boundary between Europe and Asia, stretching through a space of more than 1200 miles. This ridge, therefore, exceeds in length any of those already mentioned, but its height is not proportional, the loftiest summits being less than 5000 feet. The people who live in its vicinity bestow upon it the pompous epithet of *Semenoi Poias*, the Girdle of the World. The greater portion of this chain is covered with forests, and all the central parts abound in valuable minerals and metallic ores; but the richest mines are on the Asiatic side, and their produce will be described in the view of the Russian empire.

The **LAKES** of Europe, being of a more local character, can only be enumerated here; the particular descriptions being reserved for the countries to which they belong. The principal are Ladoga, Onega, Peypus, and Ilmen, on the east of the Baltic; Wener, Wetter, and Meler, on the west of the same sea; and the lakes of Constance, Geneva, Locarno, Lugano, with those of Neufchatel, Zurich, Lucern, and some others of less note, either amidst the elevated summits, or at the foot of the Alps.

Europe does not admit of such immense accumulations of water as roll along the great basins of the other grand divisions of the globe. Yet some of its **RIVERS** are not confined to a single country, but rank among the physical features of the continent, considered as a whole; and therefore ought to be briefly described in this general view. The principal, in the order of their extent, are the Volga, the Danube, the Dnieper, the Don, the Rhine, the Dniester, and the Elbe; the Loire, the Duna, the Dwina, the Tagus, the Vistula, and the Rhone. Some of these, however, are wholly included in one country, and will therefore form part of its description.

The majestic **VOLGA**, the prince of European Rivers, which originates in two small lakes south-west of Onega, flows towards the south-east, in an undulating course, till it reaches the confines of Asia, about the 53rd degree of latitude; and then, changing to the south west, forms the boundary between the two continents for nearly 400 miles. Resuming its first direction, it enters Asia, and rolls its majestic volume of waters, through many mouths, into the Caspian Sea, after completing an extent of 1700 miles, and receiving numerous tributary streams in its passage. Being free from shoals and rapids, it is navigable for large vessels to a great distance from its termination, and for those of smaller dimensions to within less than 100 miles of its source. The Volga is noted for producing, in the greatest perfection, that species of sturgeon from the air-bladders of which *Isinglass* is prepared.

The **DANUBE** rises in Swabia, near the foot of the northern Alps, and flows through Bavaria, Austria, Hungary, and Turkey, into the Black Sea, after receiving the contents of numerous streams in a course of 1300 miles. This river, like the Volga, empties itself by several outlets. Its magnitude is such, that ships of war can float at the distance of 600 miles from the sea. Smaller vessels ascend to double that distance; but its navigation is impeded by rapids, cataracts, and whirlpools.

Our attention is next demanded by the **RHINE**, which originates amidst deserts of ice and snow, near the summit of the Alps; whence it descends, sometimes in an open channel, and at others beneath arches of ice. Its course is first towards the north-east, but having pervaded the lake of Constance, it flows to the west, and assumes finally a northerly direction. Its shores present a bold, rich and variegated appearance, and its waters, in some places, may be seen for many leagues, without interruption. In most other rivers the confluent streams lose their appellations in that of the general current, which receives their united waters; but the Rhine divides into several branches, each of which receives a particular name, and enters the sea at a different place. Thus the original name of this grand Alpine river is lost before it reaches the ocean, notwithstanding its length is about six hundred miles.

The **TAGUS** rises in the central mountains of Spain, about 150 miles south of the Pyrenees; and assuming a south-west course for about 450 miles, through part of Spain and Portugal, enters the Atlantic Ocean by a wide estuary, affording a capacious haven for shipping, from 2 to 9 miles in breadth.

The **RUONE**, a noble Alpine stream, which originates near the source of the

Rhine, assumes a different, and finally an opposite direction. It first descends rapidly towards the north-west, down a steep and winding channel, till it enters the lake of Geneva. After issuing from the south-western extremity of that lake, it takes a southerly, and almost direct course to the Mediterranean, which it enters by several mouths, between the Alps and the Pyrenees; having received the Saone, and many other rivers, in a progress of 400 miles.

Besides the continental parts of Europe, many **INSULAR** portions require enumeration in this general view. The Azores, situated about 13 degrees west of Portugal, are the farthest from its shores. Entering the Mediterranean, the Balearic and Pityuse isles first present themselves, the principal of which are those of Majorca, Minorca and Ivica. More to the east are Corsica and Sardinia, with Elba, Sicily, Malta and Goza. Opposite the western coast of Greece are situated Corfu, Cephalonia and Zante; with Candia still further to the south. Amid the multiplicity of islands in the Archipelago, the principal are Negropont, Mytilene, Scio, Samos, Cos and Rhodes; with Cyprus near the southern coast of Anatolia.

On passing from the Mediterranean to the North sea and the Baltic, we meet with the extensive islands of Great Britain and Ireland, and their numerous dependencies, the Hebrides, the Orkneys and Shetland isles, with those of Jersey and Guernsey, near the coast of France. North-west of Shetland lie the Faroe islands, and still further, stretching to the Arctic circle, the large island of Iceland, which some have supposed to be the *ultima Thule* of the ancients; but Dr. Edmondston contends that this term should be applied to one of the Shetland group. The coast of Norway is broken into numerous islands; but the only cluster which deserves a place in this general list, is the Loffoden isles, situated between the polar circle and the 70th degree of latitude. Beyond the northern extremity of Europe, and near the eastern entrance of the White Sea, is the island of Colguef; still further to the east, that of Waygait. The large islands of Nova Zembla are situated opposite the north-east coast of European Russia, and appear like a continuation of the Uralian mountains. Still further north, and for ever locked up in the ice of the Arctic Ocean, lie the dreary and desolate islands of Spitzbergen, stretching within 10 degrees of the pole.

Within the entrance of the Baltic, the islands of Funen and Zeeland, with several smaller ones, present themselves. Rugen, near the southern shore, Bornholm, north-east of this last, with Oland and Gothland, near the Swedish coast; Osel and Dago opposite the entrance of the Gulf of Finland; and Aland, with its attendant group, forming a belt across that of Bothnia, must complete this brief sketch.

In a part of the earth's surface extending through so many degrees of latitude, and presenting such varied elevations and aspects, every diversity of **CLIMATE** must occur, from more than temperate, to an approximation to severe. The situation, however, of the greater part of Europe, is exempt from the extremes of heat and cold which are experienced on the other continents. In its northern states, every thing is bound in the icy chains of winter, and covered with one wide expanse of snow, during several months of the year: its central parts are temperate and pleasant; while its southern tracts generally enjoy a sky the most serene, and a climate the most pure and delightful. The whole is more salubrious than any other region of equal extent:

The **SOIL** of Europe does not pour forth its vegetable treasures with the same spontaneous luxuriance, or adorn them with the same dazzling splendour, as regions heated by a tropical sun; yet, cultivated by the hand of industry, and superior skill, it produces all that is necessary to the sustenance and well-being of man, with more certainty and profusion than any other quarter of the globe.

It not only supplies the necessaries and comforts, but administers to the luxuries, of life. The temperature of the European climate is also highly favourable to the developement of the human faculties; which, being called into almost constant exercise, by the care and toil it imposes, do not experience that languor and torpitude, which naturally result from extremes of heat and cold.

The ORIGINAL POPULATION of Europe was doubtless derived from an Asiatic source. We know from the authority of revelation, that the first abode of man was in the east, and that at an early period the descendants of Japhet, the third son of Noah, emigrated towards the west, and became the first possessors of Europe. Influenced by various causes, one colony succeeded another, taking possession of the uninhabited, or thinly-peopled regions of the west, till the plan of Providence was fulfilled, and the whole became tributary to the sustenance of man.

With respect to its ancient population, antiquarians assert that the Cimbri or Celts early occupied the west and south; the Fins were spread over the north-east; and the Laplanders still more thinly scattered over the extreme regions of the north. Subsequently to this period, the Scythians or Goths, who, like their predecessors, originated in Asia, drove the former occupants towards the west and the north. The Sarmati, or Slavonic tribes, are regarded as the ancestors of the Russians, Poles, Hungarians, and some others in the east; while the Heruli established themselves in Prussia and the adjacent parts. At the opposite extremity of the continent, the Iberi, the northern Mauretani of Africa, made an early entrance, and took possession of Spain. The Huns and the Turks, at more recent periods, emerged from the central regions of Asia, to swell the population of Europe.

In addition to the preceding statement, the following view will enable the reader more distinctly to trace the progressive migrations of these fathers of the European race, viz.

Original Asiatic Nations. First Establishments. Subsequent Migrations.

Celts -	{	Brittany and France, Wales, Ireland, - - - - - Scotland,	{	Ireland, England, Normandy,
Cimbri and Goths -	{	Denmark, } Norway, } Sweden, } Germany, Holland, Flanders, Switzerland.	{	Sicily, Apulia, Spain, Portugal.

<i>Original Nations.</i>	<i>First Establishments.</i>	<i>Original Nations.</i>	<i>First Establishments.</i>
Slavonians -	{	Fins (Asiatic.)	{
	Russia, Poland, Tartary, Walachia, Transylvania.		Lapland, Finland, Esthonia, Livonia, Spain, Portugal.
		Iberi (African.)	

The population of the European continent has always been unequally diffused over its diversified surface. The fertility of the soil, the courses of rivers, the ranges of mountains, and other circumstances, would necessarily direct the first settlers in the choice of their abode. The policy of modern governments, the progress of arts and industry, and the attractions of commerce, have supplied additional causes for rendering some parts of Europe, and even some districts of the same country,

more populous than others. This is strongly evinced by the fact, that the finest climates and most fruitful soils are not the most populous. Holland, for instance, contains a greater comparative population than France, in the ratio of about 9 to 7; than Portugal nearly as 2 to 1; than Spain almost as 4 to 1; and than European Turkey in a still greater proportion. Even the mountainous region of Switzerland exceeds, in comparative population, more than half the other countries in Europe. In general, the inhabitants are most concentrated in the middle regions, and the least towards the northern extremity, where nature has been less bountiful in her gifts for the support of man.

The prevailing forms of GOVERNMENT in Europe are absolute and limited monarchies. The more general diffusion of knowledge, the spirit of enterprise, and the reciprocal connexion which characterize the European nations, exclude that exercise of despotic power, so banefully displayed in many parts of the oriental world. A few of the German cities, and some of the Swiss cantons, still preserve a republican or democratic form; but even this approaches to an elective aristocracy. With this order of things, the freedom of Europe, and the prosperity and stability of her several states, are closely connected. Even where the rights of the subject are not absolutely defined, and his privileges established by law, as in limited monarchies, the state of society and manners, the force of public opinion, and the example of other powers, render the most absolute governments comparatively mild and tolerant. The similarity in the situation and views of most of the European powers; the resemblance in their interests, manners, and laws; their extended intercourse with each other; and their mutual relations, aided by the diffusion of the Christian Religion, appear to have impressed them with a necessity of maintaining a general equilibrium, founded upon the basis of national right, and tending to the promotion of universal prosperity. Europe thus presents the idea of a number of distinct parts forming one complete whole—a great confederacy of states, acknowledging those common principles, and obeying those general laws, which at once constitute the glory of the strong, and the safeguard of the weak. Under such a system, each power, in attempting to tyrannize over its more feeble neighbours, and thus to destroy the general harmony, or interfere with the common interests of the whole, excites the alarm, and exposes itself to the chastisement, of the rest. The recent conflicts of Europe afford a striking example of that energy and perseverance, which tyranny and mistaken glory, on the one hand, with the love of freedom and the hatred of oppression, on the other, are capable of exciting in the confederate body. The grand result of this convulsion has evidently been, a firmer establishment of the equilibrium—a closer union in the general compact, sealed with the blood of all, and a proof, that to conquer one nation, and to subjugate Europe, stand in much closer connexion with each other, than the love of glory or the theories of ambition would suggest.

Christianity is the common RELIGION of Europe, except in Turkey, where Mahometanism is established; and notwithstanding which nearly half the population are Christians. This prevalence of Christianity must be regarded as one of the chief causes which have raised the nations of Europe so high in the scale of human existence; for wherever the religion of Jesus has penetrated, and had its due effect, knowledge, industry, and civilization, have followed in its train. The southern nations were early converted to the Christian faith, but its progress among the barbarous tribes of the north was less rapid. Some of the Slavonic race in the vicinity of the Baltic were strangers to its doctrines, or regardless of its precepts, till the thirteenth century: and only about a hundred years have yet elapsed since the Laplanders were converted to Christianity by missionaries from Denmark. The principal divisions of Christianity are the Greek Church, which predominates chiefly in

Russia ; the Catholic, in the south ; and the Protestant, which is found in the northern Countries. The more minute subdivisions belong to local delineations. Besides these, numbers of Jews are spread over almost every country in Europe, while Paganism still lingers within its eastern confines.

Notwithstanding the present diversity of **LANGUAGES** in Europe, most of them may be traced to two original sources, the *Gothic* and the *Latin*. The Italian, French, and Spanish, chiefly spoken in the southern regions, are derived from the Latin ; those of the central and northern countries, from the Gothic. The English Language partakes of the properties of both ; its radical principles being Gothic, but enriched with numerous words and idioms derived either immediately from the Latin, or from those languages of which Latin is the parent. The Slavonic and Celtic, which were widely diffused over ancient Europe, are not yet extinct. The former, besides being incorporated with some of the Continental languages, is predominant in Russia, and part of Austria ; while the Celtic appears in Wales, Ireland, and the Highlands of Scotland. A corruption of the ancient Greek is still spoken in the southern parts of Turkey, and the adjacent islands. But Time, the great confounder of all distinctions, has so blended these different languages, and intermingled them with innumerable words and phrases, created by the progressively acquired wants, desires, and ideas, of improved society, that it is now extremely difficult to assign to each its proper part in the general structure of the modern European tongues.

In delineating the several states of Europe, various arrangements present themselves, and each has its peculiar advantages. After a careful comparison, however, of their respective merits, none has appeared to unite greater claims to preference than the geographical order, embracing the principle of *contiguity*, and beginning with our own country. This commencement is not only natural, but it may be rendered highly beneficial, by making Britain the general standard in estimating the common relations of the rest to each other. There is a propriety even in commencing our delineations with the British dominions, which is derived from their insular situation. In addition to all these considerations, there remains one greater than all. The work is English ; the author writes for Englishmen ; and his first ambition should be to make his readers well acquainted with their own country. If a native of the little republic of San Marino were to compile a system of universal geography, it is more than probable he would commence with the description of San Marino. The arrangement of the present work, therefore, will be founded upon these principles ; and the subsequent list shews, at one view, the several countries, with their respective capitals, and actual population. The total of these numbers cannot, however, be strictly depended upon as the *accurate* population of Europe ; for, in one or two instances, the number of inhabitants may have been estimated under the general head of the country, and one of its divisions. One hundred and eighty-five millions must, therefore, be regarded as the utmost amount.

<i>Countries.</i>	<i>Population.</i>	<i>Chief Towns.</i>	<i>Population.</i>
British Dominions { England	10,150,615	London	1,050,000
		Edinburgh	90,000
		Dublin	190,000
		Copenhagen	105,000
Denmark	1,800,000	Stockholm	180,000
Sweden and Norway	3,500,000	St. Petersburg	190,000
Russia	35,400,000	Warsaw	70,000
Poland	8,000,000	Vienna	270,000
Austria	28,178,800	Berlin	155,000
Prussia	10,700,000	Munich	78,660
		Dresden	60,000
German States		Hanover	25,000
		Stuttgart	20,000
		Cassel	20,000
		Bern	13,500
Switzerland	1,720,000	Amsterdam	200,000
Netherlands	5,223,000	Paris	650,000
France	29,350,000	Madrid	168,000
Spain	10,400,000	Lisbon	200,000
Portugal	3,700,000	Milan	130,000
		Turin	85,000
Italian States		Rome	160,000
		Naples	330,000
		Florence	75,000
		Constantinople	400,000
Turkey	7,500,000	Corfu	15,000
Ionian Isles	230,000		

STATISTICAL VIEW OF EUROPE

THE following brief Statistical View of Europe has lately appeared in a Foreign Journal. The original calculations were made for the German geographical Mile, of 15 to a degree, but have been reduced to the English geographical Mile, of 60 to a degree.

The *superficial extent* of Europe embraces about 2,536,464 square geographical Miles, which is only about *one-sixteenth* of the continental superficies of the whole globe. Its *Population* is estimated at 180 millions and a half; which gives, on an average, nearly 71 persons to each square mile. This population, however, is very unequally distributed over the surface; for if the Netherlands, for example, be supposed to contain 284 individuals to each square mile, Russia will contain 28, Sweden 23, and Norway only about 10.

Arranging the Inhabitants of Europe according to the *Languages* they speak and the *Religion* they profess, we shall have the two following statements: viz.

ACCORDING TO LANGUAGE.	
1st Nations speaking dialects derived from the Latin	61,000,000
2d Teutonic Nations	54,000,000
3d Slavonians	45,000,000
4th Celts	3,720,000
5th Tartars	3,500,000
6th Magyans	3,250,000
7th Greeks	2,100,000
8th Fins	1,800,000
9th Cimmericians	1,610,000
10th Basques	630,000
11th Arnauts	330,000
12th Maltese	80,000
13th Circassians	8,000
14th Samoides	2,100
15th Jews	2,060,000
16th Gipsies	340,000
17th Arminians	150,000

ACCORDING TO RELIGION.	
1st Roman Catholics	100,000,000
2d Protestants of different Communities	42,000,000
3d Greek Church	32,000,000
4th Menonists	240,000
5th Methodists	190,000
6th Unitarians	50,000
7th Quakers	40,000
8th Mahometans	2,630,000
9th Jews	2,060,000
10th Moravians (Hernhutters)	40,000

If each of the European States be classed according to its *superficial Extent*, *Population*, ordinary *Revenue*, and the *contributive Proportions* which each individual, on an average, pays towards the public expenses, they will occupy the following order - viz.

ACCORDING TO SUPERFICIAL EXTENT.

- 1st Russia (including Poland.)
- 2d Sweden (including Norway.)
- 3d Austria.
- 4th France.
- 5th Turkey.
- 6th Spain.
- 7th Great Britain.
- 8th Prussia.
- 9th Germany.
- 10th Denmark.
- 11th The Two Sicilies.
- 12th Portugal.
- 13th Sardinia.
- 14th Netherlands.
- 15th Switzerland.
- 16th Ecclesiastical States.
- 17th Tuscany.

ACCORDING TO POPULATION.

- 1st Russia (including Poland.)
- 2d France.
- 3d Austria.
- 4th Great Britain.
- 5th Germany.
- 6th Spain.
- 7th Prussia.
- 8th Turkey.
- 9th The Two Sicilies.
- 10th Netherlands.
- 11th Sardinia.
- 12th Portugal.
- 13th Sweden (including Norway.)
- 14th Ecclesiastical States
- 15th Switzerland.
- 16th Denmark.
- 17th Tuscany.

ACCORDING TO REVENUE.

- 1st Great Britain.
- 2d France.
- 3d Russia.
- 4th Austria.
- 5th Germany.
- 6th Netherlands.
- 7th Prussia.
- 8th Spain.
- 9th Turkey.
- 10th Portugal.
- 11th The Two Sicilies
- 12th Sardinia.
- 13th Sweden.
- 14th Denmark.
- 15th Ecclesiastical States
- 16th Tuscany.
- 17th Switzerland.

ACCORDING TO CONTRIBUTIVE PROPORTION.

Proportional No.

- | | |
|----------------------------------|-------|
| 1st Great Britain | 52·17 |
| 2d Netherlands..... | 28·05 |
| 3d France..... | 19·71 |
| 4th Germany | 16·06 |
| 5th Russia | 15·88 |
| 6th Denmark | 14·60 |
| 7th Portugal | 13·58 |
| 8th Prussia..... | 13·14 |
| 9th Spain | 12·60 |
| 10th Sardinia | 12·05 |
| 11th Austria..... | 11·68 |
| 12th Ecclesiastical States | 9·49 |
| 13th Sweden | 9·31 |
| 14th Tuscany..... | 9·12 |
| 15th Turkey..... | 9·04 |
| 16th The Two Sicilies..... | 7·97 |
| 17th Switzerland..... | 5·47 |

It is worthy of remark, that Switzerland is the weakest State in Europe; and that each individual in Great Britain, upon an average, contributes nearly double the sum to the public burdens that the inhabitant of any other nation does; more than five times as much as the Swede, the Italian, or the Turk; and nearly ten times as much as the Swiss.

BRITISH EUROPEAN DOMINIONS.

THE British European Dominions comprise the extensive islands of Great Britain and Ireland, with several others of less note. They are situated in the Atlantic Ocean, west of the Continent, and contain a superficial extent of about 120,000 square English miles, and a population of 17,175,000 inhabitants. Great Britain is the principal of these islands, and by its situation, extent, and population, is distinctly pointed out as the natural head of the united empire. It lies between Ireland and the Continent. It is separated from the latter by the English Channel and the German Ocean, or British Sea; and from the former, by St. George's Channel and the Irish Sea. Great Britain extends from about 50° to $58^{\circ}\frac{1}{2}$ of north latitude, and from 2° of east, to 6° of west longitude, from the meridian of the Royal Observatory. Its length from north to south is about 580 miles, and its greatest breadth, along the southern coast, 370; the whole area exceeding 87,000 square miles, with a population, according to the last census, of 12,596,803 individuals.

The Phœnicians are supposed to have been the first discoverers of Britain, the south-western extremities of which they visited in early times; for the sake of its mineral treasures, especially tin; and some authors, among whom is the learned *Bochart*, have thought the appellation of *Britain* to be of Phœnician origin. Others, however, have derived it from the Belgic colonies, who invaded this island from the opposite coasts of Gaul. The word *Albion* (from *Alba*, white) was bestowed in consequence of the white cliffs which bound its southern shore. Both *Albion* and *Britannia*, however, were indiscriminately used by the Roman authors, to denote the island of Great Britain.

Advancing northward, and in about the 55th degree of latitude, an arm of the sea, on the western coast, reduces the breadth of this island to scarcely 60 English miles, and forms, at the same time, a natural division of it into two distinct parts; denominated *North* and *South Britain*. The former contains *Scotland*, and the latter *England* and *Wales*. The whole of Great Britain and Ireland is included under one sovereignty, though they are still regarded as distinct countries; and several circumstances in their natural and civil geography require that they should be separately described. We shall accordingly commence with England and Wales, then proceed to Scotland and its adjacent islands; and conclude with Ireland.

* Since this statement was printed, a new Census has taken place, and the whole Population of Great-Britain and Ireland was found, in 1821, to be 21,226,626 individuals, instead of 17,175,000; which is an increase of 4,051,626 individuals in the interval of ten years. For the principal results of this Census, see the *Addenda*, at the end of the second volume of this work.



ENGLAND AND WALES.

CHAPTER I.

Name—Situation—Boundaries—Extent—Population—Original Inhabitants—Progressive Geography—Present Division and Distribution of the Inhabitants.

ENGLAND, or *Anglia*, is the appellation by which the southern part of Great Britain has been designated ever since the time of the venerable Bede, who adorned the early part of the 8th Century. It was derived from the *Angles*, a nation of the Cimbric Chersonese, or modern Jutland, who had previously conquered large districts in the northern and eastern parts of the Country. The immediate denomination which it received from these people was, therefore, *Angeland*; since modified into its present name.

This most important part of the British Empire is **SITUATED** in the north Atlantic Ocean, and nearly comprised between 50 and 55 degrees 45 minutes of north latitude. It is washed on the east by the British or German sea, on the south by the English Channel, on the west by St. George's and the Irish sea, and bounded on the north by Scotland. Its general figure, exclusively of the irregularities of its outlines, is triangular; having its three points nearly east, west, and north. If we suppose right lines to be drawn from each of these points to the other two, that which faces the north-west will be the longest, being about 425 English miles; the other two will be nearly equal, or about 350 miles each. The **SUPERFICIAL CONTENTS** of England and Wales are computed at 58,335 square miles, the former being 50,210, and the latter 8125. The actual population, according to the last return, in 1811, was 10,150,615; being 9,538,827 for England, and 611,788 for Wales; exclusively of the Army and Navy, which, during the war, were estimated at 610,500. Hence, by dividing each of these numbers respectively by its corresponding surface, we shall obtain nearly 190 persons for each square mile in England, and 75 in Wales.

To ascertain with absolute certainty from what source, or at what precise period, the **ORIGINAL INHABITANTS** of England were derived, is now perhaps beyond the utmost power of antiquarian research. The first colonies which have been traced with any degree of certainty, are those of the *Southern Celts*, the Gael of history, but whom the Welsh call *Guydels*, and regard as their predecessors. These are supposed to have passed from the nearest shores of the Continent, and to have taken possession of the southern districts of England, about a thousand years before the Christian era. Regarding these Gaelic tribes as the primitive inhabitants, since they constitute the barrier which our researches have not yet been able to pass, it appears, from subsequent circumstances, that they did not long retain their original abodes in this island, but advanced into Wales, and thence into Ireland. A part of them afterwards migrated from Ireland into the Highlands of Scotland, where, as well as in the former country, dialects of the Gaelic language

still exist. The *Cimbri*, or northern Celts, followed their southern brethren into the more inviting regions of which they had taken possession, and, being more warlike and powerful, caused them to withdraw from the island. These, in their turn, were also driven into Wales by the Goths, and are regarded as the ancestors of the modern Welsh. The Scythians or Goths were originally a fierce and valiant tribe who passed from Asia into the eastern and northern regions of Europe; but subsequently pressed towards the west and south, they took possession of that part of Gaul nearest the shores of Britain, and, about three centuries before the Christian era, were known by the name of *Belgæ*. Thence they crossed into England, for, when Cæsar invaded this island, he found the regions on the south-east possessed by Belgic colonies, before whom the original inhabitants had retired towards the west.

The Romans next became masters of the country; but, when the period arrived in which these conquerors of the world were in their turn to experience the fate of the vanquished, and the mighty empire of Rome, with all its boasted honours and accumulated treasures, was to become a prey to hordes of northern barbarians, the Roman armies were withdrawn, and Britain was again left to the peaceful possession of its Belgic inhabitants. Having lived, however, 400 years in complete subjection to a foreign yoke, they had not only lost the use of arms, but apparently the inclination to employ them, and were unable to defend themselves against the invasion of their more warlike brethren, who, to avoid the enervating influence of subjugation, had taken refuge in the northern recesses of the island. In this defenceless state, the inhabitants of South Britain invited the *Saxons* to their assistance, whose first arrival was about the middle of the fifth century. These were a brave and valiant people from the north of Germany, possessing all the qualities deemed noble and heroic in an uncivilized and barbarous age. Having repulsed the enemies they came to combat, and finding the fertile lands of Britain, improved as they had been by Roman knowledge and Belgic industry, a more agreeable residence than those they had left, they turned their arms against the people they at first protected. Several fresh reinforcements arrived during the subsequent century, and prior to the great branch of the *Angles*, who landed in 547, and who were destined to impart their name to the country they invaded. A period of nearly 150 years of incessant struggle and conflict, between the Belgic natives and their invaders, succeeded before the Saxon Heptarchy was finally established; the last of which kingdoms was formed in 585. Though the Saxons and Angles had thus, by their valour and intrepidity, rendered themselves masters of the kingdom, they bore but a small proportion to the native inhabitants, and were seldom, if at all, accompanied by women. Hence the *Belgæ* still constituted the bulk of the population, and are justly regarded as the principal ancestors of the modern English. The subsequent conquests of the Danes and the Normans also brought with them an accession of strangers, but this was so small, in comparison with the whole population, that it was insufficient to produce any great or lasting effect upon the original stock.

The PROGRESSIVE GEOGRAPHY of a country is not only an interesting topic in itself, but essential to a proper understanding of its history. To gain a clear and comprehensive idea of this subject, as it relates to England and Wales, the division of the country, at four different periods, must be attended to. 1. Before the landing of Julius Cæsar: 2. During the authority of the Romans: 3. During the Saxon Heptarchy: 4. Since the time of Alfred. A knowledge of each of these divisions is necessary for understanding the history of the period to which it relates. But, as we possess little knowledge of British history, prior to the Roman invasion, and as it cannot be ascertained from what circumstances the first

divisions of it arose, it will be sufficient, for the present purpose, to give the names of the different tribes who inhabited the country, with the respective territories of each, at the time when it was subdued by the Romans. These, as nearly as could be ascertained by Cæsar, were,

<i>Tribes.</i>	<i>Possessions.</i>
1. Danmonii,	Cornwall and Devonshire.
2. Durotriges,	Dorsetshire.
3. Belgæ,	Somersetshire, Wiltshire, and the northern part of Hampshire.
4. Attrabattii,	Berkshire.
5. Regni,	Surrey, Sussex, and the south of Hampshire.
6. Cantii,	Kent.
7. Trinobantes,	Middlesex and Essex.
8. Iceni,	Suffolk, Norfolk, Cambridgeshire and Huntingdonshire.
9. Cateuchlani,	Bedfordshire, Buckinghamshire and Hertfordshire.
10. Dobunni,	Oxfordshire and Gloucestershire.
11. Silures,	Herefordshire, Monmouthshire, Brecknockshire, Radnorshire and Glamorganshire.
12. Dimetæ,	Caermarthenshire, Pembrokeshire and Cardiganshire.
13. Ordovices,	Flintshire, Denbighshire, Merionethshire, Montgomeryshire, Caernarvonshire, and the Isle of Anglesey.
14. Cernovii,	Cheshire, Shropshire, Staffordshire, Warwickshire and Worcestershire.
15. Coritani,	Lincolnshire, Nottinghamshire, Derbyshire, Leicestershire, Rutlandshire and Northamptonshire.
16. Brigantes,	Yorkshire, Lancashire, Westmoreland, Cumberland and Durham.
17. Ottodani,	Northumberland.

When the Romans invaded the country, these tribes and their territorial divisions gradually disappeared before the arms of their conquerors. But the first distinctive appellations they introduced into Britain, were vague and indefinite; for *Britannia Romana* comprised all that had been subjugated by their arms; and *Britannia Barbara*, those districts which still maintained their independence. The relation which subsisted between the two opposing powers, however, caused a perpetual variation in this division, the one part increasing at the expence of the other, till *Britannia Romana* contained nearly the whole of South Britain. Hence a more specific division became necessary, and in the latter periods of the Roman power in this island, the whole of the conquered part was divided into four great provinces: viz.

1. *Britannia Prima.* Including the Southern part, from the mouth of the Thames on the one side to that of the Severn on the other.
2. *Britannia Secunda.* Comprising modern Wales.
3. *Flavia Cæsariensis.* Comprehending the midland districts of England, from the Thames to the Humber on the east, and between the Severn and the Mersey on the west.
4. *Maxima Cæsariensis.* Which extended from the Humber to the Tyne, and from the Mersey to the Solway Firth. The northern boundary of this division was at one period formed by the wall of Severus, extending from Newcastle to Carlisle; and at another by that of Adrian, connecting the Firth and the Clyde.

When the Roman armies were withdrawn from Britain, and the Saxons and other northern tribes had overrun the whole of the southern division of the island, with the exception of Wales and Cornwall, the new conquerors divided their possessions into seven kingdoms, collectively styled the *Saxon Heptarchy*; each chief assuming the government of those parts he had been most instrumental in subduing. These kingdoms were *Kent*, *Sussex*, *Wessex*, *Essex*, *Northumberland*, *East Angles*, and *Mercia*. The following list exhibits the counties included in each kingdom, the dates of its establishment, its termination, and

the name of its Founder, according to Hume, and other acknowledged authorities, arranged in the Chronological order of their commencement.

<i>Kingdoms.</i>	<i>Territories.</i>	<i>Establishment.</i> A. D.	<i>Termination.</i> A. D.	<i>Founders.</i>
1. Kent.....	Kent	455.....	823.....	Hengist.
2. Sussex, or South Saxons ...	{ Sussex Surrey Part of Cornwall Devonshire Dorsetshire Somersetshire Wiltshire Hampshire Berkshire	491.....	600.....	Ella.
3. Wessex, or West Saxons...	{ Essex Middlesex Part of Hertfordshire Yorkshire Lancashire Durham Westmoreland Cumberland Northumberland Part of Scotland	512.....	827.....	Ceraic.
4. Essex, or East Saxons	{ Norfolk Suffolk Cambridgeshire	527.....	810.....	Erkenwin.
5. Northumberland	{ Gloucestershire Herefordshire Worcestershire Warwickshire Leicestershire Rutlandshire Northamptonshire Lincolnshire Huntingdonshire Bedfordshire Buckinghamshire Oxfordshire Staffordshire Derbyshire Shropshire Nottinghamshire Cheshire Part of Hertfordshire	547.....	827.....	Ida.
6. East Angles	{ Gloucestershire Herefordshire Worcestershire Warwickshire Leicestershire Rutlandshire Northamptonshire Lincolnshire Huntingdonshire Bedfordshire Buckinghamshire Oxfordshire Staffordshire Derbyshire Shropshire Nottinghamshire Cheshire Part of Hertfordshire	575.....	792.....	Uffa.
7. Mercia	{ Gloucestershire Herefordshire Worcestershire Warwickshire Leicestershire Rutlandshire Northamptonshire Lincolnshire Huntingdonshire Bedfordshire Buckinghamshire Oxfordshire Staffordshire Derbyshire Shropshire Nottinghamshire Cheshire Part of Hertfordshire	585.....	824.....	Crida.

Each of these tribes was completely independent of the rest, and governed by a prince of its own; but in times of great danger they submitted the management of their affairs to a Wittenagemot, or council of Wise-men, and chose a common leader of their forces.

After a series of jealousies, conspiracies, and wars, which constitute the prominent features in the history of the Saxon heptarchy, England became united, in 827, under *Egbert*, king of the West Saxons, the only surviving descendant of those conquering chiefs who had established the heptarchy, and enhanced their authority by claiming a descent from *Woden*, the supreme divinity of their forefathers. The present division of England into counties or shires, is ascribed to Alfred the Great, who reigned from 871 to 901. These were at first denominated *shires*; from the Saxon word signifying shares; and each was under the superintendence of an *Ealdorman* or *Aldorman*; an appellation apparently derived from

the age of the person by whom this authority was commonly exercised. Subsequently to the Danish conquest, these governors were called Earls, from the Danish word *Jarl*, implying a man of rank. The government was originally exercised by the Earl himself; but the dignity becoming hereditary, the management of the county affairs devolved upon his deputy, who was called *Shire-reeve*, or *Sheriff*, answering to the Latin term *Vice Comes*; from which, or from the French word *Comte*, introduced after the Norman conquest, many of these shires have obtained the name of *Counties*.

England, however, as divided by Alfred, contained only 32 Counties, exclusively of Wales. Durham and Lancashire were included in Yorkshire; Cornwall in Devonshire; Rutland in Northamptonshire; Monmouthshire was considered as part of Wales; and Northumberland, Cumberland, and Westmoreland were subject to the Scots.

Few alterations took place in the geography of England during the Norman period. Westmoreland and Cumberland were rescued from the Scots; and the provinces north of the Humber, which formed part of the Danish kingdom of Northumbria, were gradually subdued and incorporated with the British monarchy. But the northern parts of Northumberland were still exposed to the inroads of the Scots, and could not be considered as more than a nominal part of the kingdom.

Wales was divided into its present counties at a subsequent period of its history. The Welsh kings had done homage to the crown of England prior to Edward I.; but it was during the reign of that prince that this principality was annexed to the English Crown. Henry VIII. in the 27th year of his reign, extended the same laws to Wales as were in force in the sister country; and by another statute, made about seven years afterwards, he gave to the Welsh counties, and the adjacent ones of England, the names and extent which they now have. By this act the intermediate lands, which then separated England and Wales, were either formed into new counties, or added to the old ones. The new counties were Monmouthshire, Brecknockshire, Denbyshire, Montgomeryshire, and Radnorshire. The first was annexed to England, and the others to Wales. Gloucestershire, Shropshire, and Herefordshire were increased; as were the Welsh counties of Cardigan, Caermarthen, Glamorgan, Merioneth, and Pembroke.

The subdivision of counties which prevails, more or less, throughout the kingdom, arose from various circumstances, but it rather belongs to a topographical, than a geographical description. The number of counties in England and Wales is now 52; and the following list contains the name and population of each, the number of Members it sends to Parliament, with the chief town and its inhabitants, according to the enumeration in 1811.

<i>Situation.</i>	<i>Counties.</i>	<i>Population.</i>	<i>Mem.</i>	<i>Chief Towns.</i>	<i>Population.</i>
6. Northern	Northumberland.....	172,161	8	Newcastle.....	27,587
	Cumberland	133,744	6	Carlisle.....	12,531
	Durham.....	179,805	4	Durham.....	6,703
	Yorkshire.....	978,553	30	York.....	18,217
	Westmoreland.....	45,936	4	Appleby.....	1,100
4. Joining Wales	Lancashire.....	828,309	14	Lancaster.....	9,214
	Cheshire.....	227,031	4	Chester.....	16,140
	Shropshire.....	194,700	12	Shrewsbury	18,543
	Herefordshire.....	94,073	8	Hereford.....	7,306
	Monmouthshire	51,274	3	Monmouth.....	3,503

<i>Situation.</i>	<i>Counties.</i>	<i>Population.</i>	<i>Mem.</i>	<i>Chief Towns.</i>	<i>Population.</i>
12. Midland	Nottinghamshire.....	162,000	8	Nottingham.....	34,253
	Derbyshire.....	185,487	4	Derby.....	13,048
	Staffordshire.....	295,153	8	Stafford.....	4,866
	Leicestershire.....	150,419	4	Leicester.....	23,146
	Rutlandshire.....	16,880	2	Oakham.....	1,729
	Northamptonshire.....	141,353	9	Northampton.....	8,427
	Warwickshire.....	228,735	6	Warwick.....	6,497
	Worcestershire.....	161,001	9	Worcester.....	13,814
	Gloucestershire.....	285,514	8	Gloucester.....	8,280
	Oxfordshire.....	119,191	9	Oxford.....	12,931
	Buckinghamshire.....	117,650	14	Buckingham.....	2,987
	Bedfordshire.....	70,213	4	Bedford.....	4,605
8. Eastern	Lincolnshire.....	222,551	12	Lincoln.....	8,861
	Huntingdonshire.....	42,208	4	Huntingdon.....	2,397
	Cambridgeshire.....	101,109	6	Cambridge.....	11,208
	Norfolk.....	291,999	12	Norwich.....	37,256
	Suffolk.....	234,211	16	Ipswich.....	13,669
	Essex.....	252,473	8	Chelmsford.....	4,649
	Hertfordshire.....	111,654	6	Hertford.....	3,900
	Middlesex.....	958,276	8	London.....	1,009,546
3. South-eastern	Surrey.....	323,851	14	Guildford.....	2,974
	Kent.....	373,095	18	Maidstone.....	9,443
	Sussex.....	190,883	28	Chichester.....	6,425
4. Southern	Berkshire.....	118,277	9	Reading.....	10,788
	Wiltshire.....	193,288	34	Salisbury.....	8,243
	Hampshire.....	245,080	26	Winchester.....	6,705
	Dorsetshire.....	124,693	20	Dorchester.....	2,546
3. South-western	Somersetshire.....	303,180	18	Taunton.....	6,997
	Devonshire.....	383,308	26	Exeter.....	18,896
	Cornwall.....	216,667	44	Lanncoston.....	1,758
6. In North Wales....	Flintshire.....	46,518	2	Flint.....	1,433
	Denbighshire.....	64,240	2	Denbigh.....	2,714
	Caernarvonshire.....	49,336	2	Caernarvon.....	3,696
	Anglesey.....	37,045	2	Beaumaris.....	1,810
	Merionethshire.....	30,924	1	Bala.....	2,365
	Montgomeryshire.....	51,931	2	Montgomery.....	932
	Radnorshire.....	20,900	2	Radnor.....	1,917
	Cardiganhire.....	50,260	2	Cardigan.....	2,129
6. In South Wales ...	Pembrokeshire.....	60,615	3	Pembroke.....	2,415
	Caermarthenshire.....	77,217	2	Caermarthen.....	7,275
	Brecknockshire.....	37,735	2	Brecknock.....	3,196
	Glamorganshire.....	85,067	2	Cardiff.....	2,457

The population of England and Wales was long a subject of great uncertainty; and though many conjectures were offered, there were not sufficient data for an *accurate* statement, prior to the Census of 1801.* According to this, the resident population of England was 8,331,434, being 3,987,935 males, and 4,343,499 females. In 1811, the population, as already stated, was found to be 9,538,827, being 4,575,763 males, and 4,963,064 females. Allowing both these statements to be correct, the increase in the intermediate ten years was 1,207,393 individuals, consisting of 587,828 males, and 619,565 females. The ratio of the males to the females, in 1811, was therefore nearly as 10 to 11; but in the increase only as 10 to 10½. In Wales, the population, in 1801, was 541,546, or 257,178 males, and 284,368 females. In 1811, the numbers were 611,788, 291,633, and 320,155. The total increase during the interval was therefore 70,242. The males had in-

* It should be observed, however, that this census is not to be relied upon, for it was generally imagined that it had reference to some new tax, or the calling out of the militia, and in consequence the returns made were frequently falsified.

creased 34,455, and the females 35,787. The ratio of the males to the females at the two periods was therefore nearly as 10 to $11\frac{1}{4}$, and that of the increase as 10 to $10\frac{1}{2}$. The increase of the army and navy had in the same time also been 169,902. By comparing the population of England at these two dates, it will be perceived that the increase is about $14\frac{1}{2}$ per cent; and that in Wales it was nearly 13. The populous and manufacturing districts had advanced in a much greater proportion. In 1801, the population of Lancashire, for instance, was 672,731, and in 1811, 856,000; which gives an increase of more than 27 per cent. The numbers in the West Riding of Yorkshire, at the same periods, were 563,953, and 675,100; which is a surplus of nearly $21\frac{1}{2}$ per cent. The inhabitants of the towns had likewise been augmented in a greater ratio than those of the country places, from the extension of trade and manufactures, the natural tendency of which is to produce this effect.*

The population of England, as well as that of all other countries, is far from being equally distributed over its whole surface. The number of people in the manufacturing districts greatly exceeds that in the agricultural, on the same extent, sometimes in as high a ratio as 10 to 1; even in whole counties this ratio, without including Middlesex, is often 3 or 4 to 1. Nearly half this population live in the towns, and the remainder is spread over the country, residing in villages, farm-houses, &c. For a more particular account of the *comparative* population of England and Wales, see CHAPTER IX.

CHAPTER II.

Outlines—General Surface—Mountains—Rivers—Canals—Lakes—Climate and Seasons—Soil—Culture—Products.

AMONG the prominent features in the physiognomy of a maritime country, are what may be called its *Outlines*, or the general character of its coasts; and in no country are these of greater importance than in England. Numerous inlets and projections, render its outlines, as well as those of Wales, very irregular. In some places the sea indents the land, in others the land projects into the sea; forming bays, creeks, harbours, and convenient anchorage for vessels in stress of weather. The principal of these capes and bays shall, therefore, be enumerated, beginning with the great promontory, the Land's End, in Cornwall.

The chief inlets on the south coast of this county, are Mount's Bay, and the Havens at Falmouth and Fowey. The principal projections are the Land's End, Lizard Point, Deadman's Point, and Ram's Head. The Land's End is the most western point in the kingdom, being in $5^{\circ} 45'$ west longitude. The Lizard is the most southern point of the island, its latitude being less than 50 degrees. The estuary of the Tamar is important, being a part of the bay which forms the harbour and sound of Plymouth, between the counties of Cornwall and Devonshire. Some portions of this coast present magnificent scenery. On the one side, masses of granite bid defiance to the violence of the waves, which often swell with tremendous fury, and on the other, form a stupendous barrier to the fertile plains, thus exhibiting a singular union of the sublime and beautiful. Plymouth Sound, made by the confluence of the Plym and Tamar with the sea, constitutes a spacious inlet, about 12 miles from which stands the Eddystone Light-house, on a rock so exposed to the heavy swells of the Atlantic, that the waves frequently break over it with inconceivable force. The present edifice, which is justly admired for its architecture, and the mechanism of its structure, was built by the late *Mr. Smeaton*, and is one of the finest specimens of the kind that has ever been erected in any age or nation.

Besides Plymouth harbour, the chief inlets on the coast of Devonshire, are Dartmouth haven and Torbay; and the principal headlands Præd point and Hartland point. Dartmouth haven is a spacious harbour, capable of sheltering numerous vessels; but Torbay is the great resort of the British Navy. This bay is a species of crescent, bounded by a sweep of coast about 12 miles in extent, and screened on both sides by grand ramparts of rock; between which the ground forms a gentle vale, falling gracefully to the water's edge.

The principal bays on the coast of Dorsetshire are those of Weymouth and Pool; and the most distinguished promontories are Portland Race, St. Aldham's Head, and Pevrell Point.

On the coast of Hampshire, the most remarkable openings are Christchurch bay, Southampton water, and Portsmouth harbour. The Isle of Wight terminates the bay, formed by the eastern extremity of Devonshire, with a full range of high cliffs in front; the western side being fenced with ridges of rock, the most prominent of which, from their sharp-pointed appearance, are called the Needles.

Between this island and the mainland, is a safe road for ships, denominated Spithead ; and off the eastern part is St. Helen's.

Chichester and Rye havens are the chief openings along the coast of Sussex ; while the principal promontories are Beachy head and Selsea bill. The shore near the first of these havens is extremely level, and continues so till it approaches Selsea bill, beyond which a few rocks present themselves, but it soon resumes its flat and marshy character. Proceeding further towards the east, the South Downs form a nearer back-ground, till at length they approach the coast, and break into stupendous cliffs, terminated by Beachy head, projecting perpendicularly over the strand, and forming the highest point on the south coast of England. Beyond these, the shore becomes a marshy plain, till it reaches the rocks of Hastings ; which constitute a partial, though marked interruption, and which does not occur again in this county.

The western part of Kent is formed by the promontory of Dunge Ness, which is succeeded by the North and South Forelands. The Downs, situated between these points, and guarded towards the sea by extensive sand-banks, constitute a capacious basin for the anchorage of shipping, during the prevalence of contrary winds. Much of the southern shore of Kent is flat ; but on approaching Folkstone, the hills close in with the sea, and the rocks begin to present their bold fronts to the waves. From this point the elevations increase, and their towering heights, and chalky aspect, in the vicinity of Dover, not only obtained, for this insular tract of the globe, the name of Albion, but, in more recent times, have at once excited the envy of, and bid defiance to the ambitious enemies of Britain. Another low sandy tract occurs, before the bold chalky cliffs of the Isle of Thanet terminate the south-east point of England.

Light-houses have been erected on both the Forelands, for the general safety of vessels navigating this extremity of the Channel ; but more particularly to enable them to avoid the Goodwin sands, which commence at a short distance from this coast, and stretch about 12 miles in a north-east direction. Many parts of these sands are dry at low water ; and it is an ancient tradition, that they once joined the coast of Kent. They are supposed to have been overflowed by the sea, about the reign of William Rufus. This, however, does not appear consistent with what has taken place at other periods, with respect to the adjacent part of the same country. The Isle of Thanet still retains its name, though its insular character has long since disappeared. In the time of the Romans, this part of Kent formed a complete island, nearly of a circular shape, and was separated from the rest of the country by a strait, from two to four miles in breadth. This strait was the common passage from the Channel to London, as late as the middle of the 4th century. In the time of Bede it had become narrower, but was still navigable for small vessels, till about the Norman conquest, when the sands having accumulated, and the force of the tide diminished, dikes were thrown up, and the sea was entirely excluded.

On passing the estuary of the Thames, the flat and marshy coast of Essex assumes a northerly direction, and is indented by Black-water bay, and Harwich harbour. The Suffolk coast is at first low ; but afterwards begins to rise in a waving line, and with bolder shore towards the north. It is chiefly composed of hillocks of sand and loamy cliffs, continually undermined by the sea, and frequently mingling their contents with its waves. Lowestoffe, which stands on the margin of this cliff, is the most eastern port of the kingdom.

The coast of Norfolk resembles that of the preceding county, being generally flat, but sometimes relieved by clayey cliffs, from 40 to 80 feet in height ; and in one place the cliff is composed of chalk and a species of friable stone. Between

this and the adjoining county, the Wash forms a large bay. The whole shore of Lincolnshire is flat, and has undergone great changes; the sea encroaching in some places and receding in others. Most of its ports are now either choked with sand, or deserted by the ocean; and in one place the remains of a forest are visible beneath the waves. The Humber forms a large opening between the counties of Lincoln and York, and the low coast stretches nearly to Flamborough Head, incomparably the boldest and most magnificent promontory on the eastern shores of England. It is formed by the high ridge of the Wolds pushing its bold front far into the German Ocean, and towering in majestic grandeur above the reach of its swelling billows. Being composed of white chalky stone, it is visible many leagues distant, and serves as a noted landmark for the vessels that navigate these seas. In the northern side of this precipice there are many caverns, which, *Mr. Pennant* says, "giving wide and solemn admission, through more exalted arches, into the body of the mountain, together with the gradual decline of light, the deep silence of the place, unless interrupted by the striking of the oar, the collision of the swelling wave against the sides, or the loud flutter of the pigeons, affrighted from their nests in the distant roof, afford pleasures of scenery which such formations as this alone can yield. These are also wonderfully diversified. In some parts the caverns penetrate far, and end in darkness; in others, they are pervious, and give a romantic passage by another opening equally superb. Many of the rocks are insulated, of a pyramidical form, and soar to a great height. The bases of most are solid, but in some pierced through and arched. All are covered with the dung of the innumerable flocks of migratory birds, which resort thither annually to breed, and fill every little projection, every little hole, which will give them leave to rest."—From this point to the mouth of the Tees, which separates Yorkshire from the county of Durham, the coast is bold and precipitous, and studded with small villages of fishermen's huts, many of them placed, like nests, on the ledges of the rocks.

Having passed the Tees, the coast of Durham is low till it approaches Sunderland; but it then becomes rocky and broken into deep caverns, which continue through part of Northumberland, the remainder being low and sandy.

On crossing the island to the western coast, the shores of Solway Firth, on the Cumberland side, are low; but on approaching Whitehaven, they rise into elevated and abrupt precipices. A few miles south of that town is the bold promontory of St. Bee's Head, which is succeeded, at the distance of about twenty miles, by the lofty projection of Black Combe Point. Between these, much of the shore is flat and sandy; and on the south of Black Combe, it resumes the same character, with very little intermission, through the whole of Lancashire and Cheshire. These are indented by the broad, but shallow Bay of Morecambe, and the estuaries of the Ribble, the Mersey, and the Dee; which separate the coasts of England and Wales.

Entering the northern part of the Principality, we traverse a low and marshy shore, till we arrive at the promontory of Llandudno, a steep precipice which overhangs the sea near the mouth of the Conway, and forms the northern boundary of a bay, the other margin of which is the eastern coast of Anglesey. The extremity of this promontory is denominated Great Orme's Head. Beyond the Conway is the tremendous precipice of Penmaenmawr, the passage over which was, till lately, one of the most awful in the British dominions. The southern part of the county of Caernarvon is formed of the peninsular hundred of Lynn, stretching into the Irish Sea, and bounding Caernarvon Bay, on the one side, and Cardigan Bay, on the other. The isle of Anglesey presents many sea-worn rocks to the western wave. Cardigan Bay is wild and mountainous. A promontory on

the north of St. David's, in Pembrokeshire, forms its southern boundary. The shore of this last county is, in general, high, and the cliffs perpendicular. Here Strumble Head, and that of St. David's, present themselves. The latter bounds St. Bride's Bay on the north. This bay is succeeded by the deep inlet of Milford Haven; beyond which the coast continues rocky, and full of remarkable apertures, to the entrance of Caermarthen Bay. The shore of the Bristol Channel then loses much of its bold character, till it ultimately sinks into a marshy flat.

The opposite side of the channel is also low till it reaches the Bay of Minehead, where the majestic pile of Dunster Castle appears proudly elevated. From this point the remainder of Somerset and Devonshire is mountainous, steep, and rugged. This side of the county is indented by Barnstaple Bay, bounded on the south by Hartland Point, from which a long range of broken coast sweeps round the Bay of St. Ives, doubles Cape Cornwall, and winds on the left of the Land's End; thus completing the circuit of England and Wales.

In the general appearance, **OR SURFACE OF A COUNTRY**, independently of its outlines, and the nature of its coasts, the principal features are its mountains, vales, rivers, and lakes; the harmonious combination of which, in England and Wales, has been beautifully described by an elegant writer. "In some parts," says he, "verdant plains extend as far as the eye can reach, watered by copious streams, and covered by innumerable cattle. In others, the pleasing vicissitudes of gently-rising hills and bending vales, fertile in corn, waving with woods, and interspersed with meadows, offer the most delightful landscape of rural opulence and beauty. Some tracts abound with prospects of a more romantic kind; lofty mountains, craggy rocks, deep narrow dells, and tumbling torrents; nor are there wanting, as a contrast to so many agreeable scenes, the gloomy features of black and barren moors, and wide uncultivated heaths." In presenting a more particular view of this surface, each of its general features must be briefly noticed. The sketch shall commence with the mountains.

Taking an extensive view of this southern portion of the island, the first thing which strikes the attentive observer is, that all the highest summits are situated on the west side of the country; forming a connected chain, or rather a series of groups, extending from Cumberland to Cornwall; broken, indeed, but still preserving its general bearing and direction. The chief interruptions are the Bristol Channel and the low grounds of Lancashire and Cheshire, which divide the ridge into three parts; the northern, middle, and southern ranges. The two latter are sometimes denominated the Cambrian and Devonian ranges.

The northern extremity of this chain commences a few miles south of Carlisle, and spreads over the principal part of Cumberland, Westmoreland, the east of Lancashire, and the west of Yorkshire. One branch stretches into Derbyshire, and another diversifies the western part of Durham. The surface of these mountains, especially in the most elevated parts of the district, presents all shapes and forms, being generally broken into pointed masses, united at their bases only. These immense peaks are often separated by beautiful lakes, the tranquil bosoms of which form a strong contrast with the wild and savage-like grandeur of the naked rocks that rise around them, and hide their lofty heads in the clouds; and sometimes, by reflecting from their unruffled surface the wooded bases over which these rugged forms seem to frown in such terrific majesty, constitute the most romantic scenery imaginable. These mountains are often covered with turf, to a considerable height; and intermixed with smaller hills, embellished with nature's green mantle to their very summits. It is this northern range which constitutes the fascinating scenery that adorns the lake districts of Cumberland and Westmoreland; the gloomy grandeur which distinguishes Craven in Yorkshire; and the romantic

dales, that intersect the Alpine tracts of Derbyshire. These mountains have been supposed to occupy a space of more than 500 square miles in the three northern counties alone; and the following are a few of their highest points; the others will be found in the 9th Chapter of this article.

<i>Names.</i>	<i>Counties.</i>	<i>Height in feet.</i>	<i>Names.</i>	<i>Counties.</i>	<i>Height in feet.</i>
Sea Fell, high point	Cumberland	3,166	Grasmere Fell	Cumberland ..	2,756
Sea Fell, low point	ditto	3,092	Conistone Fell	ditto	2,577
Helvelling	ditto	3,055	Wharfedale, in Ingleton Fells, Yorkshire ..		2,384
Skiddaw	ditto	3,022	Ingleborough	ditto	2,361
Bow Fell	ditto	2,911	Shunner Fell	ditto	2,329
Cross Fell	ditto	2,901	Wharfedale, in Kettlewell dale, ditto		2,263
Pillar	ditto	2,893	Calf Hill, Westmoreland	ditto	2,188
Saddleback	ditto	2,787			

On crossing the plains which separate the *Cambrian* from the Northern Chain, and approaching the borders of North Wales, that region which has emphatically been styled the British Alps, rises in all its primitive grandeur; less rugged than the northern group, but more towering and massy—the one appearing like the fragments of a mighty ridge torn asunder by some violent effort; the other as if moulded into its present form by the hand of time, less harsh in its features, but more majestic in its sublimity. Here the traveller, from the southern districts of the island, exchanges his extensive plains for deep and narrow vallies; his gentle slopes for steep declivities; and his slight undulation, clothed with the robes of Ceres, for lofty mountains where nature's simple garb alone is visible; while an extent of prospect, and a magnificence of scenery, burst upon his view, to which he was previously a stranger. The principal part of the Cambrian range extends towards the south, through Caernarvonshire, Merionethshire, and Cardigan-shire; but it declines in elevation as it passes through this last county, and approaches the borders of South Wales. The highest summit is the towering Snowdon, rising to the height of 3570 feet above the level of the sea. The Snowdonian range is composed of various piles, ascending one above another, and that particular point to which the name of Snowdon is applied, is surrounded by others of nearly equal elevation. Snowdon is the Parnassus of the ancient Welsh Bards. Its summit embraces a view of England, Scotland, and Ireland, with North Wales and the Isle of Man; thus exhibiting such a display of nature as at once astonishes and delights the beholder. From this summit, the elevation of the chain declines both ways; and on the eastern side gradually sinks from the sublime majesty of the western ridge, to the picturesque beauty of the Shropshire hills. The range continues its direction nearly south to Cardiff, some times diverging towards the west; and though it has lost much of its Alpine character, it still preserves sufficient to render the country mountainous. Like the northern part, it declines still more towards the east, where it forms the hills of Herefordshire. The following are a few of the most elevated points of this chain, according to the last Trigonometrical Survey of England and Wales: viz.

<i>Names.</i>	<i>Counties.</i>	<i>Height in feet.</i>	<i>Names.</i>	<i>Counties.</i>	<i>Height in feet.</i>
Snowdon	Caernarvonshire	3,571	Beacons of Brecknock, Brecknockshire ..		2,862
Carnedd Llewellyn	ditto	3,469	Arrenig	Merionethshire ..	2,809
Carnedd David	ditto	3,427	Caernarthen Van	Caernarthenshire ..	2,596
Arran Fowddy	Merionethshire	2,955	Cader Ferwyn	Merionethshire ..	2,563
Cader Idis	ditto	2,914	Cradle Mountain	Brecknockshire ..	2,545

The DEVONIAN range is separated from the Cambrian by the Bristol Channel, and extends through parts of Somersetshire, Devonshire, and thence to the Land's End,

in Cornwall. This division of the great chain is much inferior in elevation to either of the former, its highest part being the mountains of Dartmoor, in Devonshire. The most remarkable heights in this quarter are Cawsand Beacon, and Pippin Tor; the former being 1792, and the latter 1549 feet, above the level of the sea. In Cornwall, the two highest summits are Brown Willy, which is 1368 feet, and Carraton Hill, which is 1208 above the level of the sea.

The *Malvern Hills* extend through Worcestershire, and part of Gloucestershire, rising from the vale of the Severn, and extending their branches several miles into Herefordshire. They do not, however, attain a great height. The *Cotswold* and *Stroudwater Hills*, in Gloucestershire, present an elevated and undulating surface, of more than 300 square miles. The *Wrekin*, in Shropshire, which towers so far above the neighbouring summits, seems, when viewed in perspective, to arise from an elevated plain. Its height is 1320 feet.

Another range of hills diversifies the surface of Hampshire and Sussex, terminating at Beachy Head. These are undulating chalk ridges, denominated Downs, and are nearly 50 miles in length, with a medial breadth of from five to ten miles. The eastern part of this range forms the celebrated South Downs, so noted for its breed of sheep. A second ridge runs through Surrey and Kent, and imparts a picturesque character to much of the latter county. The *Chiltern Hills* form another upland tract, rising into various elevations, and stretching from the vicinity of Tring, in Hertfordshire, to near Henley, in Oxfordshire. An extensive district in the East Riding of Yorkshire, denominated the *Wolds*, also presents an undulating surface, and is composed of the same chalky materials as the Downs. Their chief direction is north and south; and the whole surface nearly 500 square miles.

The upland Moors constitute another feature in English landscapes: then occur principally in Staffordshire, and the six northern counties. In the westerly part of Northumberland, they occupy about one third of the county, and extend to the Cheviot Hills, which border on Scotland. The north Tyne divides these Moors, and the southern part is united with what Mr. Marshall, in his "Agricultural Survey," has designated the Moorlands of the five counties, Northumberland, Cumberland, Westmoreland, Durham, and the western part of Yorkshire. Nearly the whole of this region consists of black, heathy, and dreary mountains. The Moors of Lancashire are insulated, but may be considered as belonging to the northern chain already described. The eastern Moorlands of Yorkshire, stretching along the northern shore, are also black and heathy, but much inferior in elevation to the western ridge. They include the narrow and comparatively fertile vallies by which ridges are separated, and cover an extent of surface, of from four to five hundred square miles. The detached Moorlands, in the northern part of Staffordshire, are elevated, bleak, and barren.

Mountains diversify the surface, and increase the picturesque beauty of a country; but VALES constitute the principal centres of fertility. Vales are generally watered by the largest rivers in the country, and are, by the French, denominated *basins*, or river districts. Their names are commonly derived either from the principal rivers that flow through them, or from the chief towns in their immediate vicinity.

As the northern counties partake so much of the mountainous character, it may be supposed they have also vallies which merit notice. The vale of Carlisle, encompassing that city, is the principal one in Cumberland; while that of Coquet, through which the river of that name flows, is the most northern vale in Northumberland; and equally noted for fertility and agriculture. The vale of the Tyne, in the southern part of the same county, is rich and beautifully variegated.

The vale of Stockton, embraces both banks of the Tees, which pours its rapid stream into the northern ocean. The vale of York is one of the most extensive and fertile in the kingdom, intersecting that county from north-west to south-west, and separated from the vale of Stockton by a narrow district of almost imperceptibly rising ground. Stretching thence to the Humber, and containing 12,000 square miles of surface, it possesses sufficient diversity to give it a rich and varied appearance. It is refreshed by the numerous rivers and streams which are tributary to the northern Ouse, whose collected waters gently glide into the Humber. This luxuriant vale abounds in timber, and affords ample returns of agricultural products. A branch diverges towards the north-east, separating the Wolds from the eastern Moorlands, and is watered by the river Derwent.

The vale of the Mersey includes the margins of Lancashire and Cheshire, while much of the central regions of this last county form the basin of the Dee. The Severn glides through an extensive tract of rich land, commencing near the borders of Wales, and traversing Monmouthshire, Shropshire, and Gloucestershire. It is divided by slight elevations, into the district of Worcestershire, and the vales of Gloucester and Evesham. The land is rich, and a great proportion entirely appropriated to pasture.

The most attractive vales in the west of England, are those of Exeter and Taunton. The former stretches from the Tiverton hills to the sea; is watered by the rivers Exe and Otter; and comprises about 200 square miles. The vale of Taunton, is separated from that of Exeter by a ridge of high land, and extends in an opposite direction to the Bristol Channel. Aylesbury stands in a vale, abounding in rich pasturage, and watered by the Thames, as it flows through Buckinghamshire. The Trent also has its vales, particularly in that part of Nottinghamshire which borders on the counties of Lincoln and Leicester.

The Alpine character of the western principality precludes extensive tracts of level country. The most celebrated vale in North Wales, is that of the Clwyd, which commences near the centre of Denbighshire, and stretches to the sea. This delightful spot abounds in rich and variegated scenery, is highly cultivated, and interspersed with towns, villages, and villas.

The vale of Conway, in Caernarvonshire, through which the river of the same name flows, is narrow but beautiful. That of the Towy, in Caermarthenshire, stretches from the shores of the Bristol Channel about 30 miles into the country, and is distinguished for its romantic and picturesque scenery. A fertile and level tract also extends along the coast of Glamorganshire.

PLAINS form a distinguishing feature in the general surface of England. The most extensive of these spread from the banks of the Thames, to those of the Humber, and even stretch beyond that river. It therefore includes a great part of Essex, Suffolk, and Norfolk, with the margins of the bordering counties; thus embracing nearly the whole eastern side of England. The Wealds of Kent, Surrey, and Sussex, form another extensive plain, stretching from Ashworth, in the first county, to Petworth, in the last; and separating the South Downs, and the northern range of chalk hills in Surrey and Kent. Its length is between 60 and 70 miles, and its surface about 1000 square miles. The wide-spread district, called Salisbury Plain, is an open country, but more resembling the Sussex Downs, than the great Plain on the eastern margin of the kingdom.

Other level tracts, from their marshy nature, are denominated *Fens*; but the district most properly designated by that name, comprises the contiguous parts of Northampton, Lincoln, Cambridge, and Huntingdon, with the northern borders of Norfolk and Suffolk. This fenny district formerly included a wide range of country; but the hand of cultivation has greatly diminished this marshy waste,

and will, probably, soon render the whole of it subservient to the purposes of rural economy. An immense tract of rich pasture land, called Romney Marsh, stretches along the southern shores of Kent; and, together with the contiguous marshes of Sussex, contains more than 45,000 acres.

Rivers form a distinguishing feature in the landscapes of every country, whether they roll their tumultuous waters from the frowning heights of stupendous rocks, or flow gently through an open flat district, diffusing fertility and beauty. England, perhaps, possesses a greater number of them than any country of equal extent. *Camden*, in his *Britannia*, enumerates 550, (rivers and rivulets,) distinguished by particular names; but its narrow limits admit only of a few sufficiently large to deserve particular description. The principal ones are the Thames, the Severn, the Mersey, the Dee, the Tyne, the Tees, the Humber, the Trent, the Ouse, and the Medway.

Its commercial importance, its local situation, and other circumstances, confer upon the THAMES a pre-eminence above all the other rivers of England. It rises on the south-eastern side of the Cotswold hills, in Gloucestershire, in the four rivulets of the Lech, the Coln, the Churn, and the Isis. This last, having received the waters of the other three, forms the boundary between the counties of Berks and Oxford; when, winding towards the east, and afterwards sweeping round the northern part of Berkshire, it suddenly turns southward to Oxford, which it peninsulates. From this city it glides in a serpentine direction towards the south, and, passing Abingdon, is joined by the *Thame*, where the Isis is changed into the Thame-isis, or *Thames*. Proceeding thence, by a most devious course, it passes Reading, Henley, Maidenhead, Windsor, Staines, and Brentford, to London. From the metropolis, its general direction is east, but not without several spacious sweeps before it reaches the sea. Its whole length is about 140 miles, and from the sea to Lechlade, on the confines of Gloucestershire, it is navigable. The tide flows to Richmond, about 80 miles from its mouth, and a great number of tributary streams pour their waters into its channel. Some of the principal of these are the Windrush, Evenlode, Cherwell, Coln, Lea, and Roding, on the left bank; with the Ock, Kennet, Loddon, Wey, Mole, Darent, and Medway, on the right. Pope, in his Windsor Forest, enumerates these tributary streams with great poetical felicity, and surpassed, if surpassed, only by Spenser's, Drayton's, and Milton's catalogues of British rivers. "Old Father Thames" is represented as rising from his oozy bed, and thus attended:

"Around his throne the sea-born brothers stood,
Who swell with tributary waves his flood:
First, the fam'd authors of his ancient name,
The winding Isis, and the fruitful Thame;
The Kennet swift, for silver eels renown'd,
The Loddon slow, with verdant alders crown'd;
Cole, whose dark streams his flowery islands lave
And chalky Wey, that rolls a milky wave:
The blue transparent Vandalis appears;
The gulphy Lee his sedgy tresses rears;
And sullen Mole that hides his diving flood,
And silver Darent, stain'd with Danish blood."

This river has been justly classed among those which derive their character from the country through which they flow, rather than impart their own character, by the boldness and rapidity of their course. It passes through some of the most beautiful, as well as the most fertile districts of the kingdom; but even where the country is hilly, it never can be called a rapid stream. It is not,

however, sluggish, but is chiefly distinguished for its majesty, and the purity of its waters, which generally fill its verdant banks, and are seldom discoloured by mud, except after floods. When these occur, the whole country in the level parts of its tract appears like a sea; but the mischief which is thus occasioned, is much less than that produced by smaller but more rapid streams, when they overflow their banks. The part of its course most remarkable for romantic scenery, or picturesque beauty, is that which stretches from Wallingford to Reading, Henley, Marlow, and Maidenhead-bridge. About Henley, in particular, it sweeps through a rich and beautiful country, to which it imparts a majestic and imposing character. Its vallies in this part of its course are bounded by hills richly clothed with beech-wood, and finely embellished with the seats of many of the principal of the English nobility. Vast plains succeed, in which the Thames constitutes the chief feature. As it approaches London, its character changes, and the richness of nature gives place to the power, the wealth, and the skill of man. Mighty works of art adorn its banks, which abound in populous towns and villages. At London it is a superb tide river, full of vessels of every description, which arrest the eye strongly in the broad sweeps it afterwards makes, through increasing marshes, to the sea.

The SEVERN is one of the most extensive, and most rapid rivers in England, and inferior to the Thames only in local importance. It issues from the eastern side of Plynlimmon, in Cardiganshire, and takes a south-easterly course, till it leaves the parent country; then, making a bold sweep through Shropshire, Worcestershire, and Gloucestershire, it enters the Bristol Channel, after a course of 150 miles. This noble river passes Shrewsbury, Bridgenorth, Bewdley, Worcester, Tewkesbury, and Gloucester, and receives the waters of the Stour, the Tame, the North and South Avon, the Wynnnow, and the Wye. It is navigable for ships to Gloucester, and for small vessels to Welshpool, on the borders of Wales. It is also connected with the principal rivers in England by means of its canals and tributary streams. The Severn is remarkable for its high tide, which often rolls impetuously in, with a height of three or four feet, accompanied by a great noise. This is occasioned by the waters of the Atlantic, which flow with such power into its estuary, contracting as they advance, that they fill the channel at once, and, being opposed by the strong current of the river, rise and dash in a surprising manner.

Of local importance, rather than of great extent, the Mersey presents a large estuary before it joins the Irish sea. The Irwell, one of its chief streams, rises in the western mountains of Yorkshire, and flowing towards the south, through Manchester, soon afterwards meets the Mersey, in its western course, from the borders of Derbyshire and Cheshire, a direction which their united waters preserve till lost in the ocean. Where the Mersey swells into a basin, it receives the V/eever, bringing its collected waters from the northern parts of Shropshire. Neither the Mersey, nor its tributary streams, have much of the mountainous character, except near their sources, where they descend from the steep sides of the Moorland ridges. They soon reach a level country, more distinguished for the artificial productions of man, than for the spontaneous beauties, or even diversities of nature. The Mersey is navigable for vessels of considerable burden from the sea to the mouth of the Irwell, a distance of about 35 miles; and this last river admits barges to Manchester.

The DEE, which, like the Severn, is of Welsh origin, issues from the mountains of Merionethshire, in two rapid streams, forming Pimble-mere, one of the largest lakes in Wales. After quitting this lake, it winds through the beautiful valley of Llangollen, in its way to the great plain of Cheshire. Having intersected, and half encompassed the ancient capital of that county, it falls into the Irish sea, be-

tween England and Wales, completing a circuitous course of about 60 miles. The Dee is navigable to Chester, where the further progress of vessels is prevented by a ledge of rocks; but beyond these the navigation is continued to Ellesmere, in Shropshire. By means of canals, the Dee communicates with the Severn, Mersey, Ribble, Ouse, Trent, Avon, Humber, Derwent, and Thames. In the first part of its course, it is a romantic and beautiful river, augmented by several rapid streams, issuing from the mountains with which it is encompassed. It is distinguished also by the peculiar circumstance of increasing in rapidity as it recedes from its source. The latter part of its progress, however, being through an extended level, it becomes comparatively uninteresting.

The **TYNE**, springing from two distinct sources, separates the counties of Durham and Northumberland, and falls into the North Sea. Its two branches are, the North and South Tyne; the former, originating in the Moorlands of Northumberland, near the confines of Scotland; the latter, in the elevated district between Durham and Cumberland. They both flow through romantic scenery, till they unite near Hexham, where they irrigate a vale opulent in manufactures. At Newcastle, the Tyne becomes navigable for ships of moderate size. North and South Shields, however, are the proper ports of this river; and the number of vessels that crowd its estuary, especially those engaged in the coal trade, present a scene of activity which few rivers can equal.

The **TEES** originates near the southern branch of the Tyne, and flows to the south-east, till it arrives at the town of Darlington, where, changing its direction to the north-east, it waters the beautiful vale of Stockton, and falls into the sea below that town. In the early part of its course, this river partakes of the romantic wildness of the country through which it flows; but in the latter, being through a more rich and populous district, its channel becomes regular, and its stream more placid.

The **HUMBER** is an arm of the sea, separating Lincolnshire from Yorkshire. From the numerous rivers it receives, and the manner in which they unite, it has been compared to a majestic oak, spreading its branches in a horizontal direction. In order to estimate correctly the natural and commercial importance of this estuary, the chief streams that flow into it must be borne in mind. The largest of them are the Trent and the Ouse.

Descending from the hilly regions, in the northern part of Staffordshire, and traversing the counties of Leicester and Derby, the **TRENT** enters Nottinghamshire on the southwest. Passing Nottingham and Newark, it intersects Lincolnshire, and joins the Ouse near its junction with the Humber, being navigable for more than 100 miles. The Trent is of great utility to the inland trade of those counties, not only on account of the numerous rivers which flow into it, and the canals by which they are connected, but, as forming an immediate communication between the central parts of the kingdom and the British sea. It is a full and clear stream, gliding through rich meadows and cultivated plains; but its current is slow, in comparison with the impetuous course of some of the northern rivers. Ships of small burden go up with the tide to Gainsborough, 40 miles from the Humber.

The following rivers flow into the Trent. The *Tame*, which rises in Warwickshire, and joins the Trent above Burton, in Staffordshire. The *Dove*, a most romantic stream, which originates near the Peak, in Derbyshire, and enters the Trent below Burton. The *Derwent*, also issuing from the Peak, and still more romantic than the Dove. After passing Derby, it unites with the Trent on the confines of Nottinghamshire. The *Soar* and the *Erwash* likewise fall into this river, in the lower part of its course.

The **NORTHERN OUSE** unites with the Trent near its entrance into the Humber

The *Ure* and the *Swale*, two romantic streams, descending from the mountains on the western confines of Yorkshire, meet near **Aldborough**, in the vale of York, and form the Ouse. At York, this river becomes navigable for ships of small burden; then, gliding through the remainder of that fertile vale, it is, with the Trent, lost in the Humber.

This river also receives several important accessions from the West Riding of Yorkshire. The *Don*, rises on the borders of Derbyshire, passes Sheffield, Rotherham, Doncaster, and joins the Ouse near Thorne. The *Calder* issues from the mountains near the confines of Lancashire, and flows through a winding channel till it reaches Wakefield. It then joins the *Ayre*, which passes through Leeds; and they afterwards both terminate in the Ouse, near the confluence of the Don.

The **MEDWAY** springs from three small streams, in the counties of Sussex, Surrey, and Kent. Their waters unite and flow to Tunbridge, where they are shortly after increased by the Buel. Passing Maidstone, it pursues its way between ridges of hills to Rochester and Chatham, where it is capable of floating the largest ships in the British navy, many of which are laid up there. From Chatham, it winds to the east till it enters the Nore at Sheerness. Its whole length is only 40 miles; but it is one of the deepest rivers in Europe, of the same extent.

Previously to describing the chief rivers of the western principality, a few of the inferior, but navigable ones, of England, shall be briefly noticed.

On the west, the *Eden* falls into the Solway Firth, and is navigable to Carlisle. The *Loyne* gives access, from the Irish Sea, to Lancaster, and the *Ribble*, to Preston. On the opposite coast, the *Weare* empties itself into the sea at Sunderland, and forms the harbour of that port. The *Tees* is navigable to Stockton; the Witham forms a medium of communication between the Wash and Lincoln; as the *Welland* does with respect to Stamford, and the *Nen*, to Northampton. The *Southern Ouse* rises in Northamptonshire, and passes through the counties of Bucks, Bedford, Huntingdon, Cambridge, and Norfolk, to the same arm of the sea. From the coast of Norfolk and Suffolk, the *Fare* is navigable to Norwich; the *Waveney*, to Bungay; the *Deben*, to Woodbridge; the *Orwell*, to Ipswich and Stour-market; the *Storr*, to Sudbury; the *Coln*, to Colchester and Black-water Bay; and the *Chelmer* to Chelmsford. Passing the Thames, a second *Stour* renders Canterbury accessible to boats; the Rother is navigable above Rye haven; Lewes communicates with the English Channel, by another *Ouse*; and Arundell by the *Arun*. The *Itchyn* admits vessels to Winchester; the *Avon* and *Stour*, from Christ-church Bay to Salisbury and Blandford. The *Ere* is a beautiful river passing Exeter. The *Dart*, which falls into the sea at Dartmouth, resembles the northern streams, in the boldness of its character, more than any of the other southern rivers. The *Tamar* with the *Plym* form the Hamoaze, or harbour of Plymouth. On the west, the *Camel* opens a passage to Warbridge; the *Taw* and the *Turridge*, to Barnstaple and Biddeford; the *Parret*, from the Bristol Channel to Bridgewater; and the *Tone* between Taunton and the Parret. The *Avon* is navigable to Bath. The picturesque *Wye*, rises in Wales, and flows through Herefordshire and Monmouthshire, into the Bristol Channel, below Chepstow. "The romantic beauties of the Wye, which flows in a deep bed, between lofty rocks, clothed with hanging woods, and here and there crowned with ruined castles, has employed the descriptive powers of the pen and pencil, and frequently engaged the curiosity of the traveller."

There are but few of the Welsh rivers (confining that denomination strictly to those that have their origin in Wales,) which merit a separate description. The Severn, the Dee, and the Wye, have been mentioned. The *Usk* passes the boundaries of the parent country. It rises in the west of Brecknockshire, intersects the

county of Monmouth, and falls into the Bristol Channel below Newport. The *Taafé* flows from the southern part of the same county into the sea near Cardiff. The *Tawy* rises near the source of the Usk, and falls into Swansea Bay. The *Towy* waters Cardiganshire and Caermarthenshire, and enters the Bristol Channel, at Caermarthen Bay; thus affording access for ships of small burden to the Capital of Wales. The *Tyvy* issues from a lake, in the eastern part of Cardiganshire, and falls into St. George's Channel below the capital of that county. The *Dyffi* descends from the mountains south of Bala, to the middle of Cardigan Bay; and the *Conway* adorns the vale of that name, on the eastern borders of Caernarvonshire, being navigable from the Irish Sea, to Llanrwst, a distance of about 20 miles.

The vast importance of CANALS, as a means of extending and perfecting inland navigation, is too obvious to require illustration. It is equally obvious, that this importance is much greater in a commercial than in an agricultural country: and yet, strange as it may seem, the attempt to bestow upon England the boundless advantages of a complete system of artificial water carriage, was first made, little more than half a century ago. Since that period the spirit of enterprise has achieved numerous Canals; so numerous indeed, that a description can here be made of only the more extensive ones. In 1755, the first act of Parliament was obtained for making Sankey Brook navigable, from St. Helen's, in Lancashire, to the river Mersey; a distance of about 12 miles. The *Duke of Bridgewater*, however, is regarded as the founder of this branch of our internal economy. Assisted by the transcendant genius of the self-taught *Brindley*, he formed a plan, in 1757, for cutting a canal from Worsley to Salford, near Manchester, and obtained an act of Parliament for accomplishing this object, during the following year. The extent of this undertaking did not exceed nine miles; but almost every obstacle that could present itself was to be overcome in its execution. Among these was a tunnel of nearly a mile in length, through a solid rock, and in some places 40 yards below its surface. This canal also crosses the navigable river Irwell, by an aqueduct bridge. The Duke afterwards extended it to Manchester, on the one side, and Pennington on the other, increasing its length to nearly 40 miles. The advantages resulting from this mode of conveying the products of Agriculture and the articles of Commerce, from one part of the country to another, soon induced many persons to turn their attention to the subject; and vessels are now seen gliding through the interior of the country in all directions. This reticular intersection connects all the great rivers, and all the large towns of the kingdom. Manchester, Birmingham, Leeds, and Sheffield, can now transport their manufactures to the distant coasts, and receive the raw material in return; while even the three great and distant ports of Liverpool, Bristol, and Hull, can exchange their merchandize across the interior. These Canals also afford a striking example of British skill and perseverance. In some places vessels pass the vallies on tiers of arches; in others, they penetrate the mountains, through which subterraneous passages penetrate from one side to the other; some times they ascend by means of locks, or are drawn up inclined planes by mechanical power, and suffered to descend by the same means. In the Shropshire Canal, for instance, vessels are raised 467 feet perpendicularly by three inclined planes, the machinery of which is worked by steam engines. The following is an enumeration of the principal English Canals:

Andover Canal commences near that town, and passes Stockbridge and Ramsey to Southampton. A branch also leads to Salisbury; and the whole length is 22½ miles.

Ashby de la Zouch Canal stretches from a few miles north of Ashby, southwards, to the Coventry Canal, below Nuneaton. Whole length 50 miles.

Basingstoke Canal begins at that town, and terminates in the river Wey, a few miles west of Guildford; after extending through a space of 37 miles.

Birmingham Canal, proceeding from that place, passes West Bromwich, Oldbury, Bilston, and Wolverhampton, to the Staffordshire Canal, which unites the Grand Trunk with the Severn; the length 22 miles.

Brecon Canal runs from that town past Abergavenny, to the Monmouthshire Canal, near Pontypool, a distance of about 33 miles.

The *Caerdyke Canal* is cut from the river Nen, a little below Peterborough, to the Witham, below Lincoln, and was originally 40 miles in length; but is more remarkable as the supposed work of the Romans, than for its present utility.

Chesterfield Canal crosses the Royton river at Kilton, passes Worksop, proceeds to Retford, and, after winding through the northern part of Nottinghamshire, falls into the Trent, near Stockwith, on the borders of Lincolnshire. Its length is 44½ miles, and its trade is extensive.

The *Coventry and Oxford Canal* proceeds from the Grand Trunk to Atherstone, Coventry, and Oxford. Its whole length is about 92 miles.

Ellesmere Canal runs from the Severn above Shrewsbury, to Newton and Walford, where a branch diverges to the west. It afterwards crosses the rivers Morlas, Ceriog, and Dee, and passes Rhuabon, Wrexham, Gresford, Pulsford, and Chester, and joins the river Mersey, at the distance of 57 miles from its commencement.

The *Grand Junction Canal* joins the Oxford Canal at Braunston, on the borders of Warwickshire. It thence proceeds towards the south, and passing Welton, Daventry, Weedon, and Gayton, reaches Stoke, Grafton, and Cosgrove. From this place it flows to Newport Pagnell, Fenny Stratford, Leighton Buzzard, Ivinghoe, Berkhamstead, and Rickmansworth. It then runs nearly parallel with the Coln to Uxbridge, and thence to the Thames at Brentford; completing an extent of 90 miles, including 121 locks, and 3 tunnels.

Grantham Canal commences on the east side of that town, and takes a south-west direction to Hickling, and afterwards joins the Trent, near Radcliffe; length about 30 miles.

The *Grand Trunk* which unites the three great and distant ports of Liverpool, Bristol, and Hull, proceeds from the river Mersey, and joins the Duke of Bridgewater's Canal. It thence passes Northwich, Hardeastle, Newcastle-under-line, Stone, and Weston, to the Trent, in Derbyshire. The other part of this grand work extends from Haywood, at the confluence of the Sow, and the Trent, by Penkridge, Wolverhampton, Stourbridge, and Kidderminster to the Severn, below Bewdley. The whole course is 139½ miles; and the fall, from one extremity to the other, 1068 feet. The commercial interests of the kingdom are greatly benefited by this Canal, as it opens a communication between the principal manufacturing towns and the three chief ports. From Haywood, it is generally called the *Wolverhampton Canal*.

The *Gloucester and Berkeley Canal* joins the Severn, opposite Berkeley, connects Slimbridge, Frampton, Hardwich, and Quedgley, and terminates on the south of Gloucester, after a course of 78½ miles. The other branch of this canal commences at Hereford, and passes Ledbury, Dimmock, Newent, Rudford, and Lassington, joining the Severn opposite Gloucester. The length of this branch is 35 miles.

The *Huddersfield Canal* extends from the south side of that town, and joins the Ashton and Oldham canal, after a course of nearly 20 miles, in which it twice crosses the river Coln.

The *Kingston and Leominster Canal* commences at the former town, and

passes Stanton and Kingsland to Leominster, thence to Brimfield, Burford, Tenbury, Rochford, Knighton, Lindridge, and Bewdley, and finally falls into the Severn, near Stourbridge, after a course of 45 miles.

The *Kennet and Avon Canal* stretches from the Kennet, near Newbury, to Hungerford, Froxfield, and Great Bedwin, having crossed the river Kennet four times in that space. From Bedwin, it proceeds to Crofton and Devizes, winding by Windbrook and Bradford to Bath, where it completes a length of 60 miles.

The *Lancaster Canal* originates at Houghton, in that county, and runs near Wigan, Chorley, and Whittle; thence to Preston, Barton, Garstang, and Lancaster. Leaving this town, it passes Burton to Kendal, in Westmoreland; thus extending through a space of 76 miles. It is connected, near its commencement, with the Leeds and Liverpool Canal.

The *Leeds and Liverpool Canal* is of great extent and importance, stretching from the Mersey at the lower extremity of Liverpool, to Ormskirk, Newborough, Chorley, and Blackburn. It then proceeds to Burnley, Colne, Fanbridge, Salterford, Thurlby, Sturton, Skipton, Bradley, Silsden, Keighley, Bingley, and across the river Aire to Shipley. It continues its course to Horsforth, Kirkstall, Burley, Holbeck, and Leeds; which it reaches after a course of about 130 miles. A collateral branch runs from Shipley to Bradford.

The *Monmouth Canal* commences near Newport, and has two branches, the one extending by Malpas to Pontypool; the other from near Malpas to Crumlin-bridge. The length of both branches is 22 miles.

The *Rochdale Canal* joins the Calder navigation at Halifax, whence it proceeds to Todmorden, Littleborough, Rochdale, Middleton, and through Manchester, to Castlefield, whence it joins the Duke of Bridgewater's Canal, after an extent of $31\frac{1}{2}$ miles.

The *Shropshire Canal* runs only about $7\frac{1}{2}$ miles from the Severn, which it joins a little below Colebrook dale. It deserves notice, however, from the peculiarity of its construction, which has been already described.

The *Stratford Canal* connects that town with the Worcester and Birmingham Canal, at King's Norton; and is $24\frac{1}{2}$ miles long.

The *Union, or Leicester and Northampton Canal*, commences on the west of Leicester, runs to Aylstone, and, after crossing the river Welland, joins the Nen Navigation, near Northampton. It also communicates with a branch of the Grand Junction. The length from Leicester to Northampton is 43 miles.

The *Warwick and Birmingham Canal* joins the former of these towns with the latter, by a course of about 25 miles. Another branch leads from Warwick to Braunston, by Radford, Offchurch, Long Itchington, Lemington Hastings, and Granborough to Braunston, being about 20 miles.

The *Worcester and Birmingham Canal* begins at the latter place, and joins the Severn at the former, after extending through a space of country equal to about $31\frac{1}{2}$ miles.

The English LAKES are of two kinds:—the sheets of pure water which are collected in the highest and most rugged districts; and those which are formed in the lower parts of the marshy tracts, and generally denominated *Meres*. The most celebrated Lakes are in the mountainous counties of Cumberland, Westmoreland, and Lancashire; and though small in comparison with those of many other counties, they are, for the most part, adorned with picturesque and sublime touches of nature. The chief lakes of Cumberland are Derwent-water, Bassenthwaite, Crummock-water, and Buttermere. Ulls-water is situated between Westmoreland and Cumberland; and Windermere, on the confines of Westmoreland and Lancashire. Coniston-water is wholly in Lancashire.

Derwent-water, frequently called Keswick Lake, as being near that town, is about three miles long and two broad. Its shape is nearly oval, and it is adorned with several wooded islands. The size and figure of this lake allow the whole to be seen at once, and though this circumstance may add to its beauty, it diminishes, perhaps, those impressions of sublimity and grandeur which are frequently excited by the imagination. *Omne ignotum pro magnifico*. There must be room for the fancy to act; and then, what is real, starts into a thousand glowing pictures under her magic touch. This lake also appears diminutive when compared with the surrounding scenery, which is strikingly bold and majestic. "The soft undulation of its shores, the mingled wood and pasture that paint them, the brilliant purity of the water, that gives back every landscape on its bank, and frequently with heightened colouring; the fantastic wildness of the rocks, and the magnificence of the amphitheatre they form, are circumstances, the view of which excites emotions of sweet and tranquil pleasure. When visited by moon-light, the deep shades of the frowning mountains, the reflected light of the moon on the unruffled surface of the water, and the silence of the night, only broken by the murmur of the water-falls, are represented as filling the mind with inconceivable pleasure."

The waters of this lake occasionally experience great agitations without any apparent cause, but they have been ascribed to bottom winds. Islands sometimes rise above the surface, and float for various periods, and then disappear. In 1798, one of 180 yards long, and 50 broad, was buoyant for about six weeks.

Bassenthwaite is situated three miles north of *Derwent-water*, and is about four miles in length, and one in width, at the broadest part; but it is less than half a mile at the narrowest. The majestic Skiddaw rises on one side, with towering sublimity, while rugged mountains, half shrouded by woods, descend abruptly to the water's edge, on the other, and a fertile vale, watered by the *Derwent*, gives a spacious opening on the third. The prospects from the adjacent mountains are variegated and romantic in the extreme.

Crummock-water, on the north-west side of the mountains which bound the preceding lake, is about four miles long, and half a mile broad. It is separated from *Buttermere* by a beautiful valley, one mile in length. Few of the lakes have a stronger claim to notice, from their picturesque beauties, than this. Barren mountains border the eastern margin, while the opposite banks "are much indented and varied with low bays, curious promontories, little coppices, and trees scattered among small farms; the whole terminating in a rich scene of woodland, impending in a beautiful manner from the superior eminences." The adjoining mountains present strong contrasts; "some verdant, some rocky and heathy, and some covered with red shiver, which streams down their furrowed sides, exhibiting a singular appearance," greatly heightened by reflection from the smooth surface of the deep and glassy lake.

Buttermere is a delightful lake, about a mile and a half long, but not more than half a mile of medial breadth. On one side a range of rugged mountains rises abruptly, but the ascent on the other is more gentle, and, in several places, adorned with wood. The scenes most interesting to the numerous visitors, who annually traverse its shores, or glide over its calm surface, are the cataracts near its southern extremity, and the water-fall a little to the west.

Several other lakes of less note, but all possessing peculiar beauties, are crowded into this southern corner of Cumberland; as *Leathes-water*, *Lows-water*, *Ennerdale-water*, and *Wast-water*. The lakes of *Gras-mere*, *Rydal-water*, and *Hawes-water*, are in Westmoreland.

Ulls-water is situated between Cumberland and Westmoreland, a few miles south-east of Penrith. It is about nine miles long, but seldom more than one broad.

The surrounding scenery is grand, and the general characteristic of the lake, that of awful sublimity, surpassing any other in the north of England. The impressions made by the surrounding scenery, are greatly heightened by the peculiar property of the numerous projections, and inlets that envelop its deep waters and isle-studded surface, of reverberating sound. By the introduction of a few French-horns and clarionets, according to *Gilpin's* description, the whole lake is transformed into a kind of magical scene, in which every promontory seems peopled with aerial beings, answering each other in celestial music.

Windermere, or *Winandermere*, the largest of the northern lakes, is situated between Westmoreland and Lancashire, and occupies a space of about 15 miles in length, and from one to two in breadth; but, as it winds round the mountains, on the west, the whole cannot be seen at once. The margin of this lake is skirted with rich, varied, and picturesque scenery, heightened by several beautiful and woody islands, which rise from its waters. Its eastern shore, more gentle and sloping, is adorned with numerous villas; nor are the islands altogether destitute of buildings. The scenery on the western side is bold and rugged, with a sufficiency of romantic character to diversify its beauties.

Coniston-water, situated in Lancashire, four miles west of Hawkshead, is six miles long, and about three quarters in medial breadth. The surrounding scenery is highly romantic. The depth of its waters is about 40 fathoms, and its char is much superior to that of either Ulls-water or Windermere, the only lakes in the north where this singular species of fish is found.

The Lakes or *Meres* of the southern part of the kingdom do not require a particular description, for they are little more than large surfaces of water, covering the lowest tracts of a flat and marshy country. The principal of these, (which are situated in Huntingdonshire and its neighbouring districts,) are Brickmere, Ugg-mere, Wittlesea-mere, Ramsey-mere, and Benwick-mere. Wittlesea-mere is much the largest; but the progress of cultivation, particularly in draining the Fens, has greatly diminished their ancient limits. There are also some meres of this kind in Shropshire and Cheshire; as Bog-mere, Comber-mere, and Pick-mere.

The lakes of Wales resemble much more those of the north of England than the meers above-mentioned. These adorn many of the mountainous districts, but are most numerous in Cardigan and Caernarvonshire. Near the town of Brecon, there is a singular lake, called *Lyn-Savadhan*, about two miles in length, and nearly the same in breadth. The breaking up of the ice in spring, is attended with a great noise, resembling long and repeated peals of thunder, which may be heard at a considerable distance.

Bosherton-mere, near Stackpole, Pembrokeshire, is noted for the rumbling noises that seem to issue from its waters at certain periods; and by attending to which, the inhabitants are enabled to predict the changes of the weather.

Pimble-mere, in Merionethshire, is said to possess the remarkable property of never overflowing its banks, in consequence of land-floods, heavy rains, or the melting of snow on the adjacent mountains, though this effect is constantly produced by storms of wind.

In ascertaining the CLIMATE of a country, as connected with the SEASONS in which nature produces her vegetable treasures, regard must be had to the *temperature*, *moisture*, and *motion* of the atmosphere, and the changes to which each of these is subject. The situation of England admits only of a diminished portion of solar influence. Hence cold is more predominant than heat. Its insular position, however, prevents those extremes of temperature which are common in continental countries under the same parallel. The circumstance, however, of its

interposition between the vast Atlantic and the Continent, subjects the climate to great variations, and renders it more favourable to the growth, than to the ripening of vegetable products. This also imparts to it that beautiful and continued verdure,* and that perpetual smile of fertility, which so preeminently distinguish it from other countries. A few observations on each of these topics will assist the reader in forming accurate notions upon the interesting subject of climate.

The extreme temperature generally takes place in the month of July, or early in August, and that of cold, in January, or the beginning of February. In the one case, Fahrenheit's thermometer seldom rises above 85 or 86 degrees, the general *maximum* of the year being 81 or 82; and in the other, it seldom sinks lower than 14 or 15 degrees, though it has been known to descend below 0. The thermometer is supposed to attain the greatest height a little west of the metropolis. The north-eastern counties are subject to a greater degree of cold than those on the north-west. The north and south of England differ less in the temperature of winter than in that of summer. The following heights of the thermometer afford a comparative view of the temperature in different parts of England; the mean in each case is taken: viz.

	<i>Spring.</i>	<i>Summer.</i>	<i>Autumn.</i>	<i>Winter.</i>	<i>Annual.</i>
At Liverpool, 12 o'Clock.....	48°	62°	60°	44°	53°
Middlewich, Cheshire, 10 A.M....	44	64	60	41	52
Lancaster, Noon	41·3	61·6	58·2	41·6	48·7
London	46·2	62	59·4	40·5	51·9
York	42·6	63·3	56·3	36	49

In addition to this statement, it may be observed, that the greatest and least heights of the thermometer, at the above places, were as follow. Three others have been added, that could not be included in the preceding list.

	<i>Liverpool.</i>	<i>Middlewich.</i>	<i>Lancaster.</i>	<i>London.</i>	<i>Dover.</i>	<i>Sidmouth.</i>	<i>Derby.</i>
Greatest height	86°	78°	82°	81°	86°	76°	78°
Least height	22	21	18	20	16	20	19

From observations made with two thermometers at the same time, it was found, that the temperature at Collumpton, in Devonshire, exceeded that of Yoxly Hall, in Staffordshire; and the excess of the mean temperatures of the different seasons, was, spring, 7·8 degrees; summer, 8 degrees; and winter, 6 degrees. The difference in autumn was not observed.

The comparative temperatures of London, and different parts of the west of England, will be further illustrated by the following facts, as stated by *Dr. Young*. The mean temperature of the six winter months, from October to March, inclusive, at London, is 43·5 degrees; while at Dawlish, on the south coast of Devonshire, it was 45·3 degrees; and at Ilfracombe, on the shore of the Bristol Channel, it was as high as 59 degrees. From November to March, the mean temperature at London, is 42·6 degrees; at Penzance, in Cornwall, 48·1 degrees. From January to March, at London, 37·9 degrees; at Penzance, 48·5; and at Sidmouth, in Devonshire, 41·7 degrees. During February and March, in the metropolis, 41·5 degrees; at Clifton, 42·5 degrees. From October to December, in the capital, 47 degrees; and at Sidmouth, 45·7 degrees. In the most sheltered parts of Devonshire, the mean winter temperature exceeds that of London by about 1·5

* *Dr. Martin Lister*, in his travels in France, (1698) observes, "from the quantity of rain with us, our fields are much greener than in France; and it was a pleasing surprise to me, at my return, sailing up the river Thames, to see our green fields and pastures on every side; but, we pay dearly for it in agues, and coughs, and rheumatic distempers."

degrees ; while, during the coldest months, the temperature at Penzance is higher than at London by 4·5 degrees.

Closely connected with the temperature is the pressure of the air, and we shall therefore present a few brief observations relative to the state of the barometer in this country. It is generally remarked to be highest during the prevalence of the north and north-east winds, the temperature being the same, and lowest, when the wind blows from the opposite points of the compass. It has also been observed to stand higher during May, June, July, and August, than any other four months of the year ; but this excess is, in some degree, owing to the increased temperature. On this subject, however, the following results must suffice.

	<i>Liverpool.</i>	<i>Dover.</i>	<i>Middlewich</i>	<i>Keswick.</i>	<i>York.</i>	<i>Derby.</i>	<i>Sidmouth.</i>
Greatest height..	30·95 in.	30·95	31	30·28	30·75	30·48	30·61
Mean height	29·74	29·9	29·5	29·55	29·7	29·74	29·93
Least height	28·6	28·48	28	28·33	28·6	28·34	28·81

The state of the *Wind* is so variable in this country that it cannot be reduced to any general principles. The most useful information on this subject will, therefore, be to state the results of a few observations. It is generally found to blow with the most strength and constancy from the west and south-west, as is strongly evinced by the leaning of the trees, in all parts exposed to its influence, towards the opposite quarters. This arises from the situation of the island with respect to the Atlantic and the Continent, and the difference of atmospheric temperature between them at certain seasons of the year. Next to these, the east and north-east winds are the most prevalent. It generally blows least from the south and north-west. The inconstancy, however, is such, that in summer it often blows from several points of the compass in the same day. In the maritime districts, especially in the south, during warm and settled weather, the sea breeze prevails in the middle of the day, and the land breeze, morning and evening. The east and north east winds are also more frequent on the eastern than on the western side of the island.

By taking the east and north winds, in opposition to the south and west, the results of the most accurate observations will stand as follow. The great prevalence of the south-easterly winds at Liverpool is supposed to arise from some local cause.

				<i>Days.</i>					<i>Days.</i>
Liverpool, 25 years' observations	{	North	13		South	9			
		North-east	29		South-west	54			
		East	18		West	49			
		South-east	115		North-west	58			
		Total of North-east wind			175	Total of South-west wind			170
Dover, mean of 3 years	{	North	27		South	8			
		North-east	118		South-west	195			
		East	18		West	35			
		South-east	13		North-west	91			
		Total			176	Total			229
Lancaster, mean of 7 years....	{	North	30		South	51			
		North-east	67		South-west	92			
		East	17		West	47			
		South-east	35		North-west	26			
		Total			149	Total			216

		<i>Times.</i>			<i>Times.</i>
Sidmouth, 406 observations	{	North	54	South	42
		North-east	40	South-west	95
		East	13	West	38
		South-east	58	North-west	66
			<hr/>		<hr/>
		Total 165		Total 241	
Derby, 366 observations ...	{	North and North-east }	85	South and South-west }	119
		East and South-east }	56	West and North-west }	106
		<hr/>		<hr/>	
		Total 141		Total 225	

The *Moisture* of the atmosphere, as indicated by the quantity of RAIN and DEW, which fertilizes the surface, and invigorates vegetation, also affects the climate. Various circumstances combine to create a diversity in these, not only in different countries, but in different parts of the same country. With respect to England, the vicinity of the Atlantic ocean saturates the incumbent atmosphere with moisture, and the prevalence of the westerly winds carries these vapours towards the east. The chain of mountains, stretching from north to south through nearly the whole of England and Wales, arrests these clouds in their progress, and causes greater quantities of rain and dew to fall in the western, than in the eastern regions of the island. The temperature of the ocean, also, being greater than that of the land in winter, and less in summer, causes the western counties to be more mild and moist than those on the opposite side, which are exposed to the influence of cold, from the adjacent continent, in the one season, and to heat in the other. Less moisture, and a greater range of the thermometer, in the eastern parts of the island, are therefore, the natural consequences. The air of the northern counties is consequently more moist and cold than that of the southern.

By comparing the registers on this subject, kept in different counties of England, and taking the mean of several years, we are enabled to present the following abstract, which will afford a clear idea of the quantities of rain that fall in these different parts of the country : viz.

	<i>Inches.</i>	<i>Mean depth.</i>
Three North-western Counties.	{ Cumberland 43 Westmoreland 54 Lancashire 41 }	..... 47
Three North-eastern Counties	{ Northumberland 29 Durham 33 Yorkshire 33 }	..... 31
Three South-western Counties	{ Somersetshire 30 Devonshire 36 Cornwall 40 }	..... 35
Three South-eastern Counties	{ Surrey 24 Kent 26 Sussex 27 }	..... 26

Mr. *Dalton*, in the Transactions of the Manchester Philosophical Society for 1798, estimates the average quantity of rain, for the whole of England, at 31·3 inches. The counties near the metropolis are least subject to heavy rains. According to the Journal kept by order of the Royal Society, the average quantity of rain that fell in eleven years, was 21¼ inches. The proportion has not been correctly ascertained for the parts adjacent to the metropolis ; but, near Ware, in Hertfordshire, about twenty miles from London, and which may be adopted as a

fair criterion for similar distances, the average of five years' observation was 23·6 inches.

This general view of meteorological observations, made in various parts of England, leads to the conclusion, that it usually rains less in March than in November, nearly in the proportion of 7 to 12; less in April than in October, as 1 to 2; and generally less in May than September.

To attain a correct idea of the whole quantity of moisture that falls, dew, as well as rain, must be taken into the account. This Mr. Dalton estimates at about five inches, which, in addition to the quantity of rain above stated, gives a total of thirty-six inches, for the medium depth of water that annually falls on the whole surface of England and Wales.

EVAPORATION also affects the climate of a country; and, to ascertain the annual quantity in England and Wales, the same ingenious Philosopher supposes the whole of the rain and dew to be either expended in evaporation, or carried off by the rivers, into the surrounding ocean. From a careful estimate, he found that the Thames discharges about $\frac{1}{4}$ th of this quantity, and the other rivers about eight times as much. Consequently, the whole comprises about $\frac{1}{4}$ ths of the entire quantity that falls, or nearly thirteen inches in depth. Hence he concludes, that the annual evaporation amounts to about twenty-three inches.

In continental countries, the SEASONS follow each other in regular and uninterrupted succession; but in England, mild weather frequently occurs during winter, and bleak winds often blight the hopes of spring. The general mildness of our winters, in comparison with those on the continent, is strongly evinced by the circumstance, that while the ports of Holland and Germany are usually frozen up, those of Great Britain are never known to be impeded by ice. Spring is of short and uncertain continuance; but it is often diversified with those balmy intervals which have all the genial glow of summer, without its fervid languor. In June and July, England generally presents a scene of uncommon verdure and beauty. Warm and settled weather frequently extends through September, and, in the southern counties, even far into October. November is often obscured by fogs, or deluged with rain; while December usually introduces winter, with all "his rising train, vapours, and clouds, and storms."

In the northern part of the island, spring and summer are not only later and shorter, but of more uncertain course. The winter does not differ much in severity, except that it is more protracted. This season is also colder and drier on the eastern, than the western side of the island. The latter is characterized by mildness and moisture, and snow seldom lies many days, especially in those parts which stretch into the western sea.

The English SOIL possesses great variety, and when judiciously cultivated, much of it is extremely fertile. In the lower parts of the north of England, clay, with other strong soils, commonly prevail; in the more elevated lands, loams of a lighter kind predominate; while peat earth, and rock, generally divide the highest regions. The soil of the midland counties is more uniform than in the other parts of South Britain. It is chiefly a strong loam, though sandy soils cover a large space in Nottinghamshire, and calcareous soils abound in many parts of Northamptonshire. Some of these counties also contain that species of ferruginous soil, which the farmers call *red land*. Staffordshire and Derbyshire present many tracts of peat or moss. Norfolk affords a specimen of greater uniformity of soil than any other county. This is chiefly a sandy loam, except in the eastern part, where clay sometimes occurs. The Wealds of Kent, Sussex, and Surrey, contain the greatest surface of unbroken clay land in the kingdom. It is chiefly of the pale and least fertile kind. The Downs in these counties, with others in the west

of England, and the Wolds of Yorkshire, are calcareous. The south-western part of the island, comprising Somersetshire, Devonshire, and Cornwall, contains a greater variety than most other districts. Rocks, marshes, downs, heaths, and rich vales, are intermixed with each other, in almost every direction; and the fertile slope is not unfrequently frowned upon by the barren summit. The soil of Wales possesses less variety. In many of the vallies it is rich and loamy; near the sea, often sandy; and in the elevated regions thin and cold.

As England, during the early periods of its history, fed numerous herds of cattle, and flocks of sheep, besides being clothed with extensive FORESTS, trees and grass must be regarded as its chief indigenous vegetation. The adaptation, indeed, of the soil and climate to the growth of timber, is strongly evinced by the present state of its woods and plantations. The principal timber-trees in this country are the oak, ash, elm, lime, beech, chesnut, sycamore, maple, birch, alder, abele, hornbeam, aspin, and poplar. The oak of Britain exceeds that of most other countries in strength and durability; qualities that have contributed greatly to the superiority of her Navy. Much timber grows, in various parts of England, in the hedges, woods, and plantations of private property, as well as in the Royal Forests. The principal woodland counties, are Kent, Surrey, Sussex, Hampshire, Worcestershire, and Cheshire, with parts of Oxfordshire, Berkshire, Leicestershire, and Northamptonshire, to which a portion of Yorkshire, and some other counties, may be added. The western side of the island is, in general, better wooded than the eastern. It has been estimated that the value of the timber in England and Wales is, at least, equal to two years' rent of the land.

Oak is the most important species of British timber, and flourishes well in the Wealds of Kent, Surrey, and Sussex; in the hedge-rows of Cheshire, Monmouthshire, and Flintshire; in the woods and hedges of various parts of Yorkshire; and in several other counties. The eastern regions grow comparatively little. The Royal Forests, some of which are extensive, contain much oak timber; though, in most parts of the kingdom, the genius of agriculture has encroached on the domains of the sylvan deities of ancient times. The most noted of those tracts of land, once set apart for the amusement of royalty, are New Forest and Bere Forest, in Hampshire; Sherwood Forest, in Nottinghamshire; the Forest of Dean, in Gloucestershire; and Windsor Forest, in Berkshire. To these may be added, other demesnes in the duchies of Cornwall and Lancaster, many of which cover large districts. *Dr. Colquhoun* estimates the value of the timber and other wood annually cut down in Great Britain and Ireland at two millions sterling; but, as there is much less, in proportion to the extent of the countries, in Scotland and Ireland, more than half this sum must be assigned to England.

The Climate and Soil of a country are intimately connected with its vegetable productions; and, brief as the preceding views of these topics are, they will be sufficient to show, that England, when skilfully cultivated, is capable of yielding in abundance the most useful vegetable products. In giving a slight sketch of this CULTIVATION, our observations must be confined to a few of the more prominent particulars of our agricultural system. In this art, the English excel the inhabitants of most other countries, notwithstanding many of them enjoy more favourable climates. This superiority arises, in a great measure, from the land being divided among more numerous proprietors; the greater capital employed in agricultural pursuits; and the more extended knowledge diffused among the cultivators. The experiments made by many of the land owners and superior farmers, with the establishment of agricultural societies in various parts of England, have likewise facilitated the advancement of this primary branch of human industry.

The whole quantity of land in England and Wales is estimated at 37,334,400

acres ; or 32,134,400 for England, and 5,200,000 for Wales. The uncultivated lands, with those occupied by towns, villages, rivers, canals, roads, &c. have been computed at nearly seven millions of acres ; but, as the waste lands are constantly being encroached upon by the diffusion of agriculture, if this amount be taken at 6,334,400 acres, there will remain, for the productive part of the country, 31 millions, either subjected to the operations of husbandry, or covered with useful timber. According to the last population returns, agricultural labour employ 697,353 families in England, and 72,846 in Wales, being a total of 770,199 families. Now, as the average number of individuals in a family is about $4\frac{1}{2}$, the whole number of people thus employed in South Britain is nearly 3,466,000. The number of farms is supposed to be about two millions. It has been stated, by the Board of Agriculture, that 12,000,000 of acres are employed in pasturage, and four millions for the dairy. About 40,000 acres are occupied as hop-grounds and nurseries ; and 50,000 as pleasure-grounds, and fruit and kitchen-gardens. The land in an actual state of tillage has also been estimated at 12 millions of acres ; of which about 3,200,000 are sown with wheat. *Arthur Young*, however, estimates this last quantity at 3,399,326 acres ; and *Dr. Colquhoun* states the property annually created in Great Britain and Ireland by agriculture, at £216,817,624. (See Statistical Tables, Chap. IX.) *Mr. Middleton*, in his "Agricultural Survey of Middlesex," estimated the whole value of this produce in England and Wales, in 1800, at £126,690,000.

Agricultural enterprise, in England, is principally directed to three objects ; *arable*, *dairy*, and *grazing* husbandry. These, however, are frequently intermixed, especially the sheep with the first, and the rearing of cattle with the second. The counties in which each of these branches is principally conducted are the following :

Arable husbandry is pursued to the greatest extent in Northumberland, Durham, part of Yorkshire, Norfolk, Suffolk, Kent, Surrey, Sussex, Essex, Hertfordshire, Bedfordshire, Berkshire, and Hampshire.

The chief dairy counties are Cheshire, Shropshire, Gloucestershire, Wiltshire, Buckinghamshire, Devonshire, Dorsetshire, Essex, Suffolk, Cambridgeshire, Derbyshire, and Yorkshire.

The counties most distinguished for grazing are Lincoln, Leicester, Northampton, Somerset, part of Durham, with Cleveland and Holderness, in Yorkshire. The Wolds in this last county, as well as the Downs in the southern part of the kingdom, are principally appropriated to the support of sheep, or of these, in alternation with tillage.

Wheat is the most important agricultural product, and it is cultivated to the greatest extent, as well as of the best quality, in Kent, Essex, Suffolk, Hertfordshire, Berkshire, Hampshire, Rutlandshire, and Herefordshire. The average produce per acre is about 20 bushels ; and the whole quantity grown on 3,200,000 acres is, therefore, about eight million quarters. The cultivation of rye has greatly declined, from the substitution of other crops in its stead ; but it is still grown in the light soils, or elevated districts, of several counties. The chief barley counties are Norfolk, Suffolk, Cambridge, Bedford, Leicester, and Nottingham, with the upper parts of Herefordshire, Warwickshire, and Shropshire. In consequence of the increased number of horses kept in England of late years, the cultivation of oats has been greatly extended ; but these are principally grown in the northern and fenny districts of the Midland counties, and in Wales. Beans are cultivated in most of the strong lands of the kingdom, and peas are grown in the drier parts of several counties. Tares, clover, and sainfoin are generally diffused. The first is chiefly grown as spring food for sheep and cattle ; but as the

species preferred for this purpose is best adapted to the climate of the southern parts of the island, it is there where it is most generally cultivated. Potatoes are produced in all parts of the country, but attain the greatest perfection in Lancashire and Cheshire. Turnips are now considered, in most counties, as a general crop, and frequently adopted instead of the naked fallow of the old systems. Cabbages are not grown as food for cattle, except in some particular districts. Hemp and flax are confined in their cultivation.

Various kinds of small seeds, and some medicinal plants, are reared in several parts of the kingdom; as canary seed, in the Isle of Thanet; coriander and carraway seeds, in Essex; mustard, in Durham, the Isle of Ely, and some parts of Essex; rape seed, in the counties of York and Lincoln; poppy seed, and some others, in Surrey; saffron, in Essex and Cambridgeshire; madder and woad, in the western parts of Kent and some of the midland counties; chamomile, in Derbyshire; liquorice, near Pontefract, in the West Riding of Yorkshire; and several medicinal plants and herbs, near the metropolis. England has long been noted for its hops. Kent, Surrey, and the adjacent parts of Hampshire, with some districts in the counties of Suffolk, Nottingham, Worcester, Hereford, Essex, and Sussex, are the principal places where they are cultivated. Those grown in the neighbourhood of Farnham, in Surrey, are the most esteemed. This crop is so much affected by difference of season, and other causes, that both its quantity and quality are extremely variable. The average of a great number of years exceeds 20 millions of pounds.

Extensive orchards are found in Worcestershire, Herefordshire, Gloucestershire, Monmouthshire, Somersetshire, and Devonshire. The produce of these is either employed in making cider and perry, or in supplying other parts of the country with fruit. *Mr. Marshall* estimates, that the four counties of Worcester, Gloucester, Hereford, and Monmouth, yield annually about 30,000 hogsheads of cider; 10,000 of which, besides 1000 hogsheads of perry, and 1500 tons of fruit, are yearly produced in Worcestershire alone. The export of fruit in some years from that county has amounted to 2000 tons. Kent is distinguished for the production of cherries and filberts. To the cultivation of the latter several hundred acres are appropriated in the vicinity of Maidstone.

Great attention has long been paid to the various breeds of English horses, which are now superior to those of all other countries, in their fitness for all the purposes to which this noble animal is applied. The number kept in Great Britain has been estimated at a million and a half. The same care has been bestowed on the cattle, in some parts of the kingdom, where they have been crossed with each other and with foreign stock, till they have attained almost every quality of which they are susceptible. The number annually maintained in Great Britain is about five millions and a half.

The amount and quality of British sheep are objects of great importance to the farmer, and of equal interest in a national point of view. The various purposes to which their wool is applied, in the staple manufacture of the country, have given rise to a corresponding variety in the breeds, and the most successful exertions have been made for their improvement, especially by the introduction of Merinos from Spain. With respect to their wool, they are divided into two classes, the *long* and the *short* wooled. The former are most numerous on the eastern side of the island, in the low tracts of the interior, and along the coast. Their number exceeds four millions; and the annual produce of their wool has been stated at 137 thousand packs, of 240lbs each. The short-wooled are kept on all the upland districts, both of England and Wales. Their wool is short and fine; and their whole number estimated, by the best judges, at nearly 15 millions. The

annual produce of their wool is supposed to amount to 231 thousand packs. If the lambs be added, the total number will amount to 26 millions, and their wool to more than 400 thousand packs. The extent to which this has been carried, within the last century, will be best shewn by the following statement :

	100 Years Ago.	At present.
Bullocks at an average weighed.....	370 lbs.....	800 lbs.
Calves.....	50	140
Sheep.....	28	80
Lambs.....	18.....	50

To these leading products of the animal kingdom, several others of an inferior class must be added. The ass is found in all parts of England, but the number is not great. The deer, and other animals, which formerly inhabited forests, or ranged at large over uncultivated plains, have either been extirpated or confined to the parks of the nobility and gentry. The goat, which once existed, in large flocks, in the mountains of Wales, has now been superseded by the more useful sheep. Pigs, rabbits, pigeons, turkeys, geese, and various kinds of domestic poultry, are still objects of the farmer's care.

The love of rural sports, always a characteristic feature in British amusements, has caused great attention to be paid to the various kinds of dogs, for the huntsman and the fowler. The English mastiff and bull-dog are distinguished for their superior strength and courage; but these qualities degenerate in foreign climes. The only quadrupeds which now present themselves for the chase, are the fox, the stag, and the hare. The wolf and wild-boar have long been extinct. The wild-cat is yet found in some of the mountainous and woody parts, as well as the badger, otter, marten, several species of the weasel tribe, the squirrel, mole, dormouse and hedge-hog. The seal is chiefly confined to the coast of Wales.

The chief birds of prey that are met with in this country, are of the eagle and hawk kind. The golden eagle visits the highest Welsh mountains, and the black eagle, the peaks of Derbyshire, but the osprey has become very scarce. The largest of the English birds is the bustard, which frequently weighs from 20 to 25lbs. Shy and solitary in its disposition, and averse to the haunts of man, it is only seen in the most unfrequented parts of the eastern and southern counties. The smallest of the British birds is the golden-crested wren, which sports on the tops of the highest pines. The nightingale is the most admired of the musical tribe; but it is unknown in Wales, the western peninsula, and several of the northern counties, except near Doncaster, in the southern part of Yorkshire. The wheatear, so much esteemed for the delicacy of its flavour, is peculiar to the open downs of the south. The most useful of our wild fowls are the goose, duck, teal, and widgeon. Vast numbers of these are caught in the fenny parts of the country, during the winter season, and daily transported to the markets of the metropolis. Birds of passage also abound in many places; as, the woodcock and snipe, with several species of the plover. The coasts are frequented by numerous flocks of sea-fowls.

Of the *finny tribes*, which stock the seas that peninsulate South Britain, or sport in its rivers and lakes, some are migratory, and others found at all seasons of the year. To the first class belong the pilchards, which visit the Cornish coast in such shoals as to constitute a valuable article of export. Mackerel abounds off the southern shores in spring and the early part of summer. Herrings, also, are numerous in the British seas, at certain seasons of the year. Some of the most esteemed natives of the adjacent ocean, and which are to be found at all times, are the turbot, sole, cod, ling, hollibut, plaice, haddock, whiting, smelt, mullet, doree and brett. The last is chiefly confined to the coast of Wales. The whale seldom appears in the

English sea. It is sometimes seen, however, and one ~~was~~ caught a few years ago in the Thames. The porpoise is common; and the shark is often met with on the south-west parts of the island, as well as on the coasts of Wales.—The rivers, lakes, and ponds, of both England and Wales, afford fine salmon, trout, pike, eels, perch, carp, sturgeon, and various other kinds. Salmon abounds most in the rivers of Wales, and the north of England. It is computed that not less than thirty thousand are annually sent to London, from the Tweed alone. Char is peculiar to a few of the northern lakes.

Of the *reptile species*, toads, frogs, and lizards, with two or three kinds of serpents, are the principal. The viper is the only one of this last class that is venomous. The ringed snake sometimes attains the length of four feet, but is harmless.

The MINERAL STORES of Britain, not less than her agricultural opulence, have contributed to that national prosperity, wealth, and power, by which she is so pre-eminently distinguished. In many parts of Europe, equally, and even more, rich in mineral productions than England, the industry and capital employed upon them are only sufficient to procure the raw material, or to convert it to its least valuable form; “but in England, the various minerals which are found in the bowels of the earth, are for the most part, by the skill and industry of her inhabitants, either converted into the most precious and exquisite, or the most useful and important articles, that the taste, the luxury, the comforts, or the wants of man demand.”

Gold has been occasionally found in particular parts of England, but in too small quantities to defray the expense of obtaining it. Silver is chiefly met with in conjunction with lead and copper ore. Iron abounds in various places; but coal is the most profusely bestowed. Blacklead is almost peculiar to England. Several of the less common minerals also are obtained; and rock-salt furnishes a valuable export. Marble, spar, and various kinds of stone are plentiful in many districts, with fuller's earth and potter's clay. The east and south-east parts of the kingdom, however, are destitute of mineral treasures. If a line be drawn from the isle of Portland, passing about half way between Dorchester and Bridport, west of Oxford and Northampton, and east of Leicester and Nottingham, and then inclosing Doncaster and York between it and the sea, in its progress to the German ocean, near Scarborough, it will include all the lower districts of England on the right. This division, which comprises more than one-third of the kingdom, is composed of chalk, calcareous sand-stone, and other secondary strata, or alluvial soil; but it contains neither coals nor metals.

As coal is one of the most abundant of these products, and is essential in working many of the main-springs of British manufactures, it requires a prominent place in this brief description. It is obtained in various places in both England and Wales; but it abounds in Northumberland, Cumberland, Durham, and Yorkshire. Westmoreland is the only northern county which is destitute of it. Derbyshire, Staffordshire, Shropshire, Leicestershire, and Warwickshire, contain numerous veins. Gloucestershire, Somersetshire, and Monmouthshire, are the only counties in the west of England that possess fossil coal, with the exception of Bovey Heath, in Devonshire. It is likewise found in Flintshire and Denbighshire, in North Wales; and in the counties of Pembroke, Caermarthen, and Glamorgan, in South Wales.

The consumption of coals in this country is so immense, that it is difficult to form an estimate of the quantity, or of the number of men employed in raising and conveying it, to different parts of the empire. In 1792, it was computed that 64,724 men and boys were engaged in this employment, on the rivers Weare and Tyne alone. So general, indeed, has the use of coals become of late, that ap-

prehensions of their exhaustion were entertained. This induced *Dr. Thomson*, the editor of the *Annals of Philosophy*, to institute particular inquiries on the subject, and the following are the results of his investigations. He states the length of the Newcastle coal formation, from north to south, at twenty-three miles, and its medium breadth at eight miles ; which gives a superficial extent of more than 180 square miles, or 557,568,000 square yards. The thickness of all the seams, at present considered worth working, is about 10 yards. The whole quantity of coal in this formation, therefore, amounts to 5,575,680,000 cubic yards. More than two millions of chaldrons are annually exported from this district, for the county of Durham alone, annually exports upwards of one million and three quarters. This annual export, including the waste, he computes at 37 millions of cubic yards ; and by dividing the whole quantity in the formation by this, the quotient shows that these mines may be worked at the same rate, for 1500 years, before they will be exhausted. By making the requisite reductions for what has already been worked, and other circumstances affecting the consumption, amounting to one-third of the whole, he concludes, that this formation will supply coal, at the present rate of expenditure, for 1000 years to come.

If this reasoning be extended to the other formations of the kingdom, a tolerable correct notion may be formed of the immense stores which we still possess of this valuable mineral. The deepest mines in England, are those of Northumberland and Durham, some of which are worked to about 300 yards below the surface ; but the thickest seam of coal is in Staffordshire, and is about 30 feet. In the other districts, the thickness of the bed seldom exceeds 8 or 9 feet. A singular species of coal is found on Bovey Heath, in Devonshire, supposed to be wood impregnated with bituminous matter.

Iron is most abundant in Shropshire, Gloucestershire, Derbyshire, the northern parts of Lancashire, and Wales. It is likewise obtained in Northumberland, Cumberland, and Durham ; as well as in Yorkshire, Staffordshire, Worcester-shire, Wiltshire, Somersetshire, Devonshire, and Monmouthshire. The iron mines of England and Wales, supply 200,000 tons of pig-iron ; but much more than that quantity was made in 1805.

The English counties in which *Lead* is chiefly obtained, are Northumberland, Cumberland, Westmoreland, Durham, Yorkshire, Derbyshire, Somersetshire, and Devonshire. Cardiganshire, Flintshire, and Montgomeryshire, also produce it. The lead mines in Derbyshire are the most ancient in the kingdom, having been worked ever since the time of the Romans. The present produce is about 600 tons annually. Those near Alston, on the borders of Cumberland and Northumberland, yield nearly double that quantity, and employ about 1100 men. Like some of the Welsh mines, they are much celebrated for having silver mixed with the ore.

Tin is confined to Cornwall and the adjacent parts of Devonshire, which have been celebrated for this peculiar metal ever since the time of the Phœnicians, by whom it is supposed to have been discovered. The present produce exceeds 300 tons annually, and the number of men employed in all its branches amounts to nearly 10,000. *Dr. Colquhoun* has stated the annual value of British tin at £506,000.

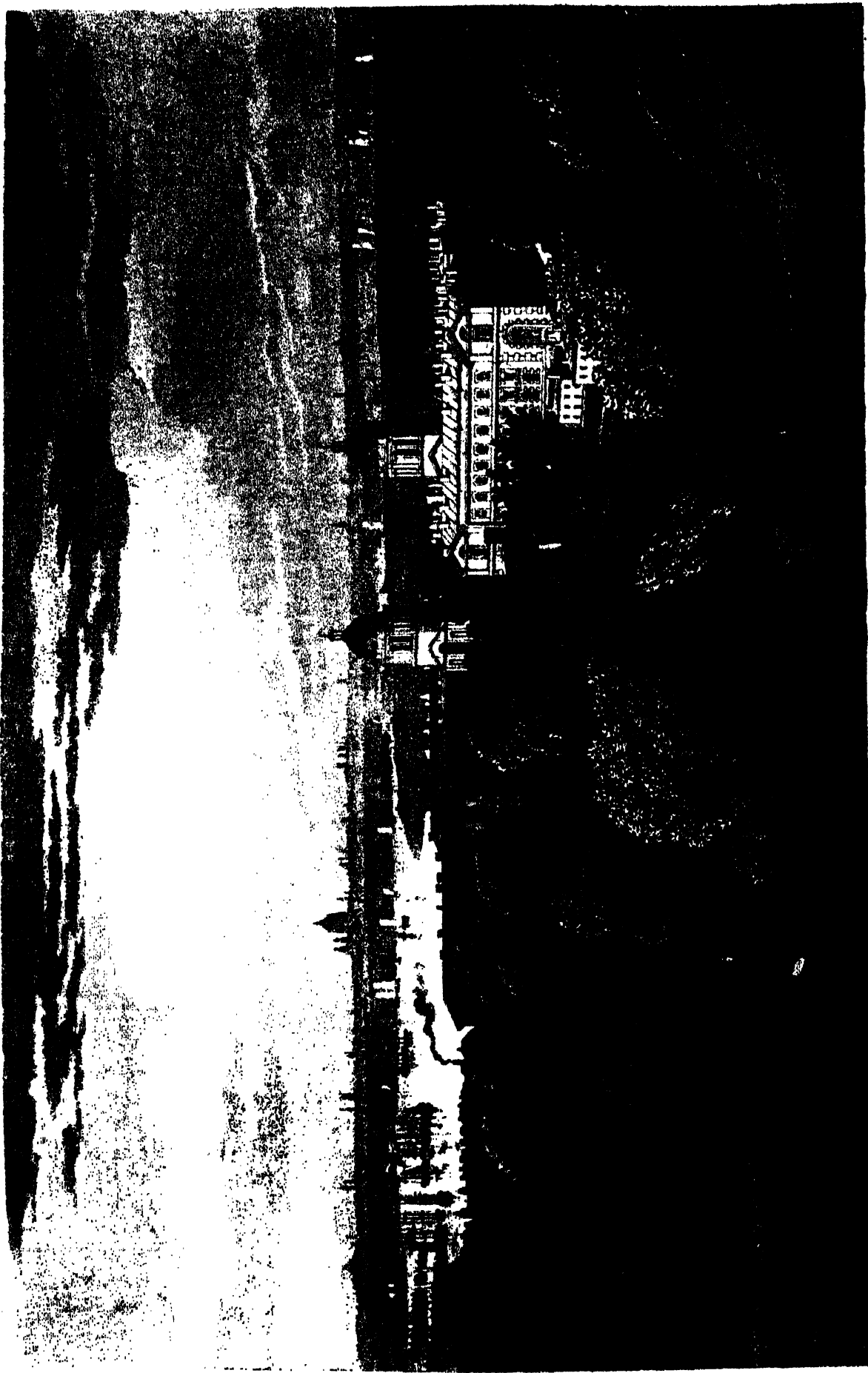
Copper is found in various parts of the great chain of mountains which stretch from Cumberland to Cornwall. The isle of Anglesey, and the adjacent part of North Wales, also contain an inexhaustible store of this valuable metal. The chief mines, however, are in Cornwall, Devonshire, Derbyshire, and Anglesey, though it is also obtained in Staffordshire, Yorkshire, and some other of the northern counties. *Mr. Grenfell* states, in his observations on the copper coinage, that the mines of Cornwall and Devonshire, yield about 80,000 tons of ore annually ; and,

as the metal varies from 5 to 15 per cent. the annual produce of copper is about 8000 tons. This, at the rate of 150 pounds per ton, amounts to £1,200,000. *Dr. Colquhoun* estimates the whole value of this metal, obtained in Great Britain and Ireland, at four millions. (See CHAPTER IX.)

Zinc is found in Derbyshire and Cornwall; *Manganese*, in the Mendip hills in Somersetshire; *Alum*, in Yorkshire, *Gypsum*, in Derbyshire and Nottinghamshire; *Fuller's earth*, in Bedfordshire, Berkshire, and Surrey. The whole quantity of this substance used annually in the clothing manufactures is about 6000 tons; 4000 of which are sent from Surrey. *Potter's-clay* is obtained in Staffordshire and other places; but the most valuable is found on the coast of Dorsetshire, especially near Purbeck. The most celebrated quarries of *Stone*, are those of Portland, Purbeck, and Bath; but it is also obtained in large quantities in Yorkshire, Northamptonshire, and several other counties. *Slate* of a superior quality is dug in abundance in Westmoreland, the West Riding of Yorkshire, various places in North Wales, Cornwall, Devonshire, and Leicestershire. The *Salt-mines* of Worcestershire and Cheshire demand a more particular description.

The principal mines of this fossil are near Northwich, in Cheshire, and were discovered in 1670; but the salt-springs in the same county were known to the Romans. The first bed of rock-salt that was found, was about 40 yards below the surface, and 30 in thickness, resembling brown sugar-candy, and so hard as to be blasted in working. Another bed of salt, about six yards thick, and separated from the former by a stratum of indurated clay, is also worked; and the whole annual produce of these mines is about 60,000 tons. The *Brine-springs* in the vicinity of Nantwich and Middlewich, in the same county, contain about 25 per cent. of the fossil; and yields about 45,000 tons annually, of fine white salt. Worcestershire also contains very productive springs; and the yearly produce at Droitwich is estimated at 600,000 bushels. Salt is likewise extracted from a spring at Weston, in Staffordshire. The home consumption of Cheshire salt, is nearly 16,000 tons, and the amount of the exports 140,000 tons.

Few countries contain more MINERAL WATERS than England. The most celebrated are those of Bath, Bristol, Cheltenham, Harrogate, Scarborough, Buxton, Matlock, and Tunbridge Wells. These possess different medicinal properties, which are found beneficial in various complaints. *Dr. Saunders* classes them in the following manner. The simple *thermal*, as Bristol, the temperature of which is 74 degrees of Fahrenheit; Matlock, the temperature 66 degrees; and Buxton, the temperature 82 degrees.—The simple *saline*; the principal of which is Epsom.—The simple *carbonated chalybeate*, of which Tunbridge is the chief.—The *hot carbonated chalybeate*, or Bath waters; the temperature 116 degrees.—The *saline carbonated chalybeate*, as Cheltenham and Scarborough.—The *Vitriolate chalybeate*, as the Hartfell waters; and the *cold sulphureous*, as the Harrogate.



London

CHAPTER III.

Principal Cities, Towns, and Buildings.

THERE are few of the **CITIES**, or large **TOWNS** of England, which have been originally built upon any specific plan, or with a view to any specific purpose. On the contrary, they have gradually emerged from the obscurity of villages, according as accidental circumstances may have led to augmented population, and a consequent increase of houses. In those which aspire to the honours of antiquity, the protection of fortresses, or the vicinity of monasteries, had great influence on their first formation ; while such additions were subsequently made as the inclination, ability, or interest of individuals might suggest. The progress of manufactures and commerce, however, has been the main cause of creating and enlarging our towns and cities. Nor must the caprice of fashion be wholly excluded. The habitual or casual residence of royalty has sometimes elevated an humble sea-port into the favoured resort of nobility and opulence. In the ancient towns in general, the streets are narrow and inconvenient, and the buildings irregular ; but in those of modern erection, or where enlargements have taken place, great attention has been paid to elegance, convenience, and health. It will be necessary to enumerate, briefly, the principal cities and towns of England, commencing of course with the metropolis.

LONDON, which, in the popular acceptation of the term, includes the cities of London and Westminster, with the Borough of Southwark, is situated in the beautiful vale of the Thames, and occupies a large space on both banks of that noble river. London and Westminster adorn its northern, and the Borough of Southwark its southern margin. This metropolis is not only the political head of the empire, in which the business of the state is transacted, but the grand emporium of universal commerce ; the centre of arts and sciences ; and the principal seat of those manufactures which minister to the demands of a refined and luxurious splendour.

The situation of the British capital is highly favourable to the health and convenience of its population. On this subject, as well as on the commercial advantages which the metropolis derives from its locality, *Dr. Aikin* makes the following just observations :—“The broad stream of the Thames, continually agitated by a brisk current, or a rapid tide, brings constant supplies of fresh air, which no buildings can intercept. The country round, especially on the London side, is nearly open to some distance, whence, by the action of the sun and the wind on a gravelly soil, it is kept tolerably dry at all seasons, and affords no lodgment for stagnant air or water. The cleanliness of London, as well as its supply of water, are greatly aided by its situation on the banks of the Thames ; and the New River, together with many good springs within the city itself, further contribute to the abundance of that necessary element. All these are advantages with respect to *health* in which this metropolis are exceeded by few.

“Its situation with regard to the circumstances of *navigation*, is equally well

chosen. Had it been placed lower on the Thames, besides being annoyed by the marshes, it would have been more liable to insults from foreign foes ; had it been higher, it would not have been accessible, as at present, to ships of large burden. It now possesses every advantage belonging to a sea-port, without its dangers ; and at the same time by means of its noble river, enjoys a very extensive communication with the internal parts of the country, which supply it with all sorts of necessaries, and in return receive from it all such commodities as they require. With the great article of fuel London is plentifully (but not cheaply) supplied by sea, from the northern collieries ; and to this circumstance the nation is indebted for a nursery of seamen, not dependent upon foreign commerce ; which is the principal source of its naval superiority. Corn and various other articles, are with equal ease conveyed to it from all the maritime parts of the kingdom, and great numbers of coasting vessels are continually employed for this purpose.”—*England Described*.

London has strong claims to antiquity of origin, having been founded by the ancient Britons, prior to the Roman invasion ; but the perishable nature of its materials, perpetually acted upon by the mouldering hand of time, has left us no evidence of its early state, and very few traces of a much later period. The old walls of the city were supposed to be of Roman construction ; and Tacitus, on the occasion of its being entered by Suetonius, in the reign of Nero, describes it, (under the appellation of *Londinium*.) as a place crowded with merchants, and of great resort. London suffered much by the ravages of the Danes ; but, at the Norman conquest, it was a place of great power and wealth, and had its privileges and immunities confirmed by the conqueror. It has, at various times, experienced severe visitations from plague, sickness, and fire. The first has repeatedly immolated its victims by tens of thousands ; and the last, destroyed its streets by hundreds. These calamities, however, were not unproductive of good. They became the means of removing ancient inconveniences, of increasing the salubrity of the air, and of gradually preparing for the erection of the modern metropolis, which now extends about six miles from east to west, and about two and a half, from north to south. The streets are well paved and lighted ; and since the introduction of gas, many of them exhibit a degree of nocturnal splendour, unknown in any other capital.

On the east, London presents an extensive port, crowded with vessels from every maritime state, and replete with all the conveniences which the most enlarged scale of commercial enterprize can require.—The central parts are chiefly dedicated to numerous manufactures, and the most extended transactions of commerce that ever centered in one city. Some idea of the latter may be formed from the estimate, that the money paid and received in London, daily, amounts to about *five millions* sterling. Passing from east to west, from the active pursuits of trade and commerce, to the luxurious ones of patrician opulence, we find ourselves amid the most striking proofs of national magnificence, as displayed in numerous specimens of elegant architecture. Innumerable streets, like the radii of a circle, diverge for miles from this metropolitan nucleus ; whence others again extend, so as to leave but few places unoccupied by buildings, by pleasure grounds, or by gardens, throughout the whole extent.

The number of houses in the metropolis, including some of the contiguous villages, amounts to about 110,000. They are chiefly built of brick, and possess much similitude ; for that variety in structure and external ornament, which many of the continental cities display, has been comparatively neglected in the British capital. Its style of building, both public and private, is rather formed upon a plan of neatness and convenience, than of splendour and magnificence. No

capital contains proportionally fewer palaces, and none so many good houses." Notwithstanding this deficiency, however, there are other circumstances which denote the grandeur and amazing wealth of London. The splendour of the shops; the nightly illumination spreading for miles in all directions; the number of carriages; the vast concourse of people, who constantly crowd the principal streets; and the elegant villas, which adorn its vicinity, seldom fail to excite astonishment in the mind of the stranger. The population of this vast and increasing city, amounts to above a million, or nearly seven persons to each house.

" In the year 1700, the number of inhabitants in the metropolis, .....was.....		674,350
In	1750, the increase in 50 years, was only 1900	676,250
In	1801, the population had increased, 223,750 in 51 years.....	900,000
In	1811, the population having experienced a } further increase	150,000 in 10 years.....1,050,000."

Though neatness, simplicity, and convenience are the characteristic qualities of the architectural structures of the British metropolis, some of its squares and public buildings aspire to much taste, elegance, and even splendour. The principal squares are situated in the west part of the town; and of these Grosvenor-square, which encloses an area of nearly five acres, is esteemed the most handsome. Its elegant houses form an exception to the general style of building, and constitute the most magnificent assemblage of edifices in the metropolis. This is succeeded by Portman-square, Cavendish-square, Berkeley-square, St. James's-square, Tavistock-square, Russell-square, Brunswick-square, and several others. The last three are situated on the north side of London, and have all been built within twenty years. They are chiefly inhabited by opulent merchants, and eminent professional individuals. Many of the detached buildings, however, would first attract the attention of the stranger. The most distinguished of these, are St. Paul's Cathedral, the Bank, the Royal Exchange, Somerset House, the East-India House, the Mint, the Custom House, and the Bridges. The most striking monuments of ancient magnificence, are Westminster Abbey and Hall, and the Tower. Several other buildings also demand attention, either on their own account, the treasures they contain, or the purposes to which they are applied. Among these are several of the churches; the Houses of Parliament; the Mansion House; the Theatres; some of the Halls of the city companies; several of the Hospitals; the Monument, built to commemorate the great fire of 1666; with the East and West India Docks; and one for general purposes. The British Museum, and several other depositories of Nature and Art, will amply reward enlightened curiosity.

One-hundred and forty-six parish churches adorn this metropolis, and some of them are elegant structures. There are nearly as many chapels, with numerous meeting-houses, belonging to the various denominations of Dissenters. Of these edifices, expressly dedicated to the worship of the Deity, *St. Paul's Cathedral*, the metropolitan Church, is the principal. Over the centre of this noble structure, which is built in the form of a cross, rises a superb and lofty dome, adorned with Corinthian columns, and crowned with a gilt ball and cross. The exterior architecture of this spacious edifice possesses a high degree of majestic sublimity; but its interior, which may be said to correspond with the simplicity of the Protestant form of worship, has been thought defective in ornament; at least when compared with many of the superbly decorated structures, reared by the fostering influence of that faith, of which saints and ceremonies constitute so conspicuous a part. St. Paul's is, also, the largest and most perfect edifice that was ever raised under the direction of *one* man; and a lasting monument of the abilities of *Sir Christopher Wren*, by whom

the foundation was laid in 1675, and the building completed in 1710, at a national expense of £736,752.

Westminster Abbey is likewise a magnificent structure, but of a totally different character. It is a fine specimen of Gothic architecture, and has become the venerable sanctuary of the illustrious dead, of all ranks, periods, and professions. So completely is its posthumous honours connected with all that is great and glorious in life, that when the heroic Nelson was preparing to engage the enemy off Trafalgar, he emphatically expressed at once the feelings and purpose of his noble heart, by observing to one of his officers, "Now for a peerage, or Westminster Abbey."

The *Bridges* across the Thames are objects both of interest and of utility. Enumerating them in their order from east to west, they will stand thus: London Bridge, Southwark, Blackfriars, Waterloo, Westminster, and Vauxhall. The first of these forms the western limit of the port, and is inferior to the others in extent and architecture, but of much greater antiquity. *Westminster Bridge* is esteemed one of the handsomest structures of the kind in the world. It is 1223 feet in length, and was completed in 1750, at an expense of £389,500. *Blackfriars*, distinguished by the lightness of its construction, was finished in 1769, and is 940 feet in length. *Waterloo Bridge* is not only elegant in its form, but singular in its structure, and presents a noble specimen of private opulence and architectural skill. Its length, including the abutments, is 1240 feet; and its breadth, 120. It consists of nine arches of equal span and elevation, leaving a clear water-way of 120 feet under each. The upper surface has no rise, but forms a complete level, from one extremity to the other. It was completed in 1817, and the expense, which considerably exceeded a million of money, was defrayed by the subscriptions of private adventurers. It is doubtful whether the original shareholders will ever realize those speculations which tempted them to embark their property in the undertaking. *Southwark Bridge* was completed in 1819, and is also a private undertaking, consisting of three arches of cast-iron, resting upon piers of stone. The centre arch is 240 feet in span; and the two side ones, 210 feet each. The length of the bridge is 800, and breadth 42 feet. The whole structure unites, in a remarkable degree, the qualities of lightness, solidity, and strength. *Vauxhall Bridge* is also composed principally of cast-iron, but is inferior in its appearance and construction. The annexed plate exhibits a good view of this magnificent metropolis.

YORK, the capital of the county of that name, and the metropolis of the north of England, is the second English city in dignity, but much lower in the scale of wealth and population. Situated at the confluence of the Foss and the Ouse, near the centre of the rich vale to which it gives name, it not only bears the date, but the venerable appearance of antiquity. This *Eboracum* of the Romans, where their Emperor Severus terminated his life and reign, is now surpassed in magnitude, population, and wealth, by several of the great commercial towns in the kingdom; but it still maintains its former dignity as the provincial metropolis of the largest county in England. It is the see, also, of an archbishop, and the only city, except Dublin, whose first magistrate is allowed to participate with the municipal head of London in the title of *Lord Mayor*. Its walls are in a state of dilapidation; but its gates, which have been better preserved, afford good specimens of ancient architecture. Like many other old towns, York contains a great number of ecclesiastical edifices, in proportion to its extent and population. Twenty-one churches are yet standing within the walls, and three in the suburbs; but the greater part of them are more distinguished for antiquity than beauty. This city, however, "derives particular distinction, in point of external appearance, from its Minster, or cathedral,

which, from its mass, its grandeur, and the architectural beauties with which it is decorated, is generally placed at the head of the gothic religious structures of this kingdom. The styles of different ages, exhibited in its several parts, render it a complete study for the votaries of ancient art ; whilst the most uninstructed spectator cannot fail of being impressed with the vastness of its dimensions, and the majestic character of its general plan." The present structure was built in the reign of Richard I. on the site of the former edifice, which had been destroyed by fire. Of the other public buildings, the castle, first built by Richard III. now used as a county jail, and the assembly rooms, designed by the Earl of Burlington, are the chief. The population of York, in 1811, was 18,220 ; and though the Ouse admits vessels of 200 tons burden, to the lower side of the bridge, very little trade is carried on, except for the immediate consumption of the city and its vicinity.

Having thus briefly described the metropolis of the United Empire, and the city next in rank, the other towns shall be arranged under general heads, classed as follows : *Manufacturing Towns—Commercial Towns—Naval Ports—Fashionable Resorts ; and Miscellaneous Places.* This last division will comprise such places as possess any thing remarkable in themselves, or in connexion with the events of British history, but which could not, with propriety, be included under any of the preceding heads.

From its wealth, extent, and population, MANCHESTER claims the first notice, in the list of manufacturing towns. This flourishing place, which ranks second in the kingdom with respect to population, is favourably situated, in the southern part of Lancashire, at the confluence of the rivers Irk and Irwell, and in the centre of an extensive canal navigation. Though of much importance in early times, Manchester did not contain one-fifth of its present population, and perhaps not one-twentieth of its present wealth, at the commencement of the 18th century. It is, therefore, one of the most striking examples of what British enterprize and industry, aided by skill and perseverance, can effect. Its original manufactures consisted of a few coarse woollen fabrics, common to many other places in the north of England. These were succeeded by fustians, mixed stuffs, and a few small articles, as inches, tapes, and laces. Several others were successively introduced, during the 18th century, the materials of which were wool, silk, and cotton ; but the last finally obtained the ascendancy, and Manchester has now become the grand focus of the cotton trade, which spreads from Halifax to Liverpool, and from Derby to Carlisle.

The enlargement of the town, and the architecture and elegance of its modern buildings, have kept pace with the influx of its opulence : till, at the last census, it contained a population of 98,570 inhabitants, most of whom were engaged in its manufactures. These consist " of a great variety of cotton and mixed goods, fitted for all markets, home and foreign, spreading over a great part of Europe and America, and the coasts of Guinea, and bringing back, in favourable times, vast profits to this country." As in most other towns, however, arising from similar causes, where convenience supplies the place of system, and times and circumstances exercise a much greater influence than any general plan, Manchester presents great irregularity in its streets and buildings. The chief edifices are the collegiate church, the college, the exchange, the new prison, and the concert rooms. The collegiate church is a handsome structure in the Gothic style, ornamented with beautiful specimens of sculpture, and containing several family chapels and chantries. The collegiate body consists of a warden, four fellows, two chaplains, two clerks, four choristers, and four singing men ; and the great rise in the appropriated property, has rendered it one of the most opulent ecclesiastical establishments in the kingdom. St. Mary's church is also an elegant structure, and was built at the

expense of the clergy belonging to the collegiate church. The free grammar school, endowed by Hugh Oldham, bishop of Exeter, and a native of Manchester, bears the name and appearance of a college. The new prison is a spacious building, erected on the plan of the philanthropic Howard.—Nor is Manchester deficient in charitable and literary institutions. Of the latter description is the literary and philosophical society, which was instituted in 1781, and has published several volumes of valuable Memoirs.

BIRMINGHAM, which has been emphatically denominated “the Toy-shop of Europe,” and which is equally distinguished for the most useful machinery ever produced by the ingenuity of man, is situated on a declivity in the north-west part of Warwickshire. The surrounding soil being a dry red sand, preserves the atmosphere from excess of moisture, and renders Birmingham one of the healthiest large towns in England. Its vicinity to the central coal field, and iron districts, and its connexion with these, as well as the principal ports, by water communication, favour the prosecution of those metallic manufactures which employ the great mass of its population. Birmingham existed as early as the days of Alfred, but dates its rise to eminence among the manufacturing towns of Europe from a recent period. Though now containing a population of 85,750 individuals, (including the adjoining parishes of Aston and Edgbaston,) more than 81,000 of whom are supposed to be engaged in the fabrication of its numerous articles, its population was less than a tenth of that number in 1700.

The celebrated *Soho*, in the vicinity of this town, is perhaps the most extensive manufactory in Europe, and employs about 1000 persons in the production of a multiplicity of articles, among which is the masterpiece of human invention, the Steam-Engine, which is now applied to almost every purpose for which a great power is requisite. This is constructed here in its greatest perfection. Amid the vast variety which attracts the attention of the curious observer, in this grand theatre of human art and industry, there is nothing more surprising than the processes adopted for abridging labour, which is effected by every complicated and ingenious contrivance, from the most ponderous machines, which astonish by the vastness of their power, to those which are formed for operations the most delicate and minute. Here the two hostile elements of fire and water are brought into such intimate union, as to effect almost every thing, and thousands of operations, from those of the most gigantic description to the pointing of a pin, are the constant effects of their united agency. There is scarcely any work in metals which has not either originated in, or resorted to, Birmingham; and with this exercise of ingenuity, and this influx of industry, the progress of opulence has kept pace.* The public buildings of this town, among which are some charitable foundations, have been planned on a principle of utility rather than of show; and few places of equal commercial wealth have, in this respect, less to attract the attention of the stranger, than Birmingham.

LEEDS, the most populous and flourishing town in the county of York, is situated on the river Aire, about 24 miles south-west of the metropolitan city. The clothing and other manufactures have rendered this vale one of the most populous districts in the kingdom, for Leeds is the general mart for the produce of that branch of industry. The business transacted in its spacious cloth-halls, exceeds that of the same kind in any other place in the world. The sales commence and close on the ringing of a bell; and only one hour is allowed on each market-day, for the transaction of business, which is conducted with such silence and regularity, that a stranger cannot understand what is passing, though cloth to the amount of £20,000 is frequently sold in half an hour. Leeds not only enjoys the advantage of being situated in a fertile district, and in the immediate vicinity of coal mines,

but of being connected by inland navigation with the principal ports of the kingdom. The river Aire opens a communication with Hull, and a canal, which flows through a circuitous tract of manufacturing districts of more than 100 miles in extent, establishes a similar communication with Liverpool. Besides the staple manufacture of cloth, Leeds has others of canvass, sacking, linen, thread, cotton, carpets, and pottery, large quantities of which are exported. The town is in general well built, some of the streets spacious and handsome, and mostly well paved. Several squares may also be numbered among the recent improvements. The houses are constructed of brick, and covered with slate; but, as many of the operations in the manufactories are performed by machinery, impelled by steam, the dark volumes of smoke, which cloud the atmosphere, give a sombre appearance to all the adjacent objects. Leeds is under the jurisdiction of a mayor, court of aldermen, and common council, but, like many other large manufacturing towns, has no representative in the British parliament. The population, at the last census, was 62,534.

Near the southern extremity of Yorkshire, at the junction of the Don and the Sheaf, stands SHEFFIELD, the centre of another distinct branch of manufactures. This town has been noted for its cutlery from the days of Chaucer; to which many branches of hardware, principally works in iron and steel, have been added. Sheffield is also equally celebrated throughout Europe, for the excellency of its plated goods, in which, indeed, it stands unrivalled for facility of execution, and superiority of workmanship. Here, also, machinery has reduced human labour incomparably beyond what could have been conceived by the manufacturers of the last generation. In these works, Sheffield has been greatly aided by the abundance of coal obtained in its neighbourhood, as well as the facility afforded by the Don, in conveying the produce of its industry to the port of Hull, where it is principally shipped. Sheffield, is chiefly situated on a hill, but extends into the adjacent vallies. It is almost continually enveloped in clouds of smoke, from the numerous engines and furnaces employed in its trade, and presents a singular appearance. When seen from the distant hills, the three churches, situated in the higher parts of the town, with their spires towering above the body of smoke, or intermixed with the dark and wreathy columns that ascend into the upper regions of the atmosphere, have a fine effect, which is heightened by the variegated aspect of the surrounding hills and vallies, woods, villages, and villas. The population, according to the latest estimate, amounts to 35,850 persons.

NORWICH, the capital of Norfolk, is situated on the banks of the Yare, and near the centre of the extensive plain which occupies the eastern part of that county. This large and ancient city long took the lead, both in population and importance, among the provincial towns of the kingdom, owing to the flourishing state of its manufactures. These consist, chiefly, of the lighter kinds of woollen stuffs, and others, intermixed with silk and linen, originally introduced by the Flemings. The rivalry of the cotton manufacture in other districts, and the restrictions which those of Norwich experienced in foreign markets, have now caused its trade to decline. Crapes, bombazines, camblets, damasks, shawls, and various kinds of worsted stuffs, are still, however, extensively made, and occupy a great proportion of its inhabitants. The previous preparation of the materials gives employment to the labouring classes in many of the neighbouring towns and villages, but the manufactures themselves are chiefly confined to the city. The wool which is used is principally furnished by the counties of Lincoln, Leicester, and Northampton. Besides supplying the home consumption, the articles are sent to various parts of the world, especially Germany, Russia, and the Mediterranean. Norwich bears all the marks of antiquity. Its buildings were formerly

covered with thatch ; and many of them, as well as one of its churches, still remain in that state. From the wide space it covers, and the numerous gardens and trees interspersed among the houses, it has been called a "city in an orchard ;" though estimated at six miles in circuit. Its ancient castle and cathedral, as well as several of its numerous churches, are prominent objects. The cathedral is an venerable structure, and the work of various periods from the 11th to the 16th centuries. Its architecture, chiefly in the Norman style, presents many interesting particulars to the attention of the antiquary. Among the other churches, amounting to 36, the only one that deserves particular notice is St. Peter's Maucroft, a large and elegant edifice, pre-eminent for its architectural qualities. The castle, now the county jail, seated on an eminence, and occupying the site of a still more ancient fortress, supposed to have been erected by Uffa, the Saxon general, is particularly conspicuous. When viewed from the south or south-west, in conjunction with the cathedral, it gives the town an imposing appearance. Several other buildings, and the charitable purposes to which they are devoted, indicate the past opulence, as well as the present benevolence of this venerable city. Its population is about 37,000.

In the more central part of the kingdom, is the town of NOTTINGHAM, situated on a rocky eminence above the meadows which border on the Trent, and near the southern extremity of the county. It is a large and populous town, and the principal centre of the silk and cotton stocking manufactures, which are not confined to the town, but extend to others in the surrounding country. The cotton is spun by machinery worked by water, and the articles are exported to various parts of Europe, America, and the West Indies. Nottingham is also partially engaged in the cotton trade, and carries on an extensive manufacture of coarse earthen-ware. The town, when seen from the opposite side of the river, has a good appearance. The streets are broad, the houses rising above each other, and the whole crowned by a beautiful and romantic castle, on the summit of a hill, which is terminated towards the river by a steep precipice. This is a modern building, erected by the Duke of Newcastle, on the site of the ancient fortress, built to keep the Britons in awe by William the Conqueror, and is of the Corinthian order, supported by a rustic basement.

The cellars, to the depth of two or three stories, dug in the sandy rock, on which the town stands, are remarkable for their preservation of fermented liquors. These excavations are supposed to have served the ancient Britons as places of refuge from their enemies. Nottingham has three parish churches. The principal is St. Mary's, which, being built in the cathedral style, and standing on a bold eminence, has a grand and impressive effect. Among the other public edifices, the New Exchange is the most conspicuous, and the market-place is one of the handsomest in England. The population is about 35,000. Nottingham is distinguished in the English history as the first place in which Charles erected his standard in 1642, at the commencement of the unfortunate civil wars ; and also for having been the prison of David, king of Scots, and Mortimer, earl of March.

LEICESTER is a place of great antiquity, having obtained the denomination of a city in the time of the Saxon Heptarchy. The celebrity it has attained in the annals of Britain, is sufficient evidence of the rank it always bore among provincial towns. It suffered greatly during the intestine commotions of the country, and at the period of the civil wars, in the reign of Charles I. it was stormed by the royal army, and many of the inhabitants were put to the sword. Before the castle was dismantled, it was a prodigious fabric, and the court of the great Duke of Lancaster. A parliament was also held here in the reign of Henry V. in which a law was enacted for the burning of heretics. The hall and kitchen of this castle

are still entire. The former is the place where the different courts of justice assemble at the county assizes ; and such is its extent, that the business of all can proceed, at the same time, without interruption. Leicester is one of the principal seats of the stocking and hosiery manufacture ; but the articles are chiefly of a coarser kind than those made at Nottingham, being in great part fabricated from the long staple wool of the county. The trade of Leicester has, within these few years, considerably revived. The population, in 1811, was 23,150. Besides the five parish churches, of which St. Martin's is the largest, the principal buildings are the New Jail, the Infirmary, the Lunatic Asylum, the Assembly Room, and the Library. The ruins of the abbey still remain, in its vicinity, where Cardinal Wolsey, the great and ambitious minister of Henry VIII. sunk under the pressure of sickness and disgrace.

COVENTRY was a city of early renown in the English history, the legendary tales of which ascend to the time of Edward the Confessor. It received many favours from the British sovereigns, who were its frequent visitors. Henry IV. and Henry VI. held parliaments there, in the last of which the attainders were passed against Richard, Duke of York, and his son, the Earl of March. Coventry is pleasantly situated in a fertile district, and connected, by a canal navigation, with most other parts of England. It possessed an early and extensive manufacture of various articles, and during the greater part of the last century, camblets, shalloons, stuffs, and calimancoes, were the principal fabrics. These have now been superseded by the manufacture of ribands, for which it is the principal place in the kingdom. Watch-making has also been lately carried to such extent in it, that the number now made in Coventry is supposed to rival that of London. The streets, in general, are narrow, and many of the houses old. Of the three churches, the two that stand near each other, are distinguished for their light and lofty spires ; that of St. Michael's being considered as the most perfect example of this species of architectural elegance in the island. Its height is 303 feet, which is also the length of the church. The exterior is extremely handsome, while its interior exhibits a degree of light yet lofty grandeur. The remains of some of the other public buildings are sufficiently interesting to deserve the attention of the antiquary ; and among these St. Mary's Hall, erected in the early part of Henry VI., and still used on civic occasions, is much admired as a specimen of ancient splendid decoration. The population of Coventry is nearly 18,000.

The city of WORCESTER, seated in the beautiful vale of the Severn, and on the margin of that river, is large and handsome, and is resorted to as a desirable residence by persons of independent fortune. Its manufactures, are woollens, gloves, and carpets, with a variety of elegant porcelains, which, for the delicacy of their execution, are deservedly admired. Worcester is also one of the greatest hop-markets in the kingdom, and enjoys the advantage of a very extensive inland navigation. Its cathedral is a spacious and lofty edifice, built in the simple Gothic style of architecture ; and, though crowded with the surrounding buildings, it rises sufficiently above them to give space and lightness to the pinnacles that ornament its tower and roof. The foundation was originally laid by Æthelred, king of Mercia, in 680, and then designed as a convent for secular priests ; but the present structure is the work of the thirteenth and fourteenth centuries. Worcester also contains nine churches within the walls, and two without. None of them deserve notice, except St. Nicholas, which is much admired for the elegance of its spire. The Bridge over the Severn, completed in 1781, is at once an ornament and convenience to the city. The chapter-house, and Edgar's tower, deserve the traveller's attention, as specimens of antiquity ; while the Guild-Hall is the most elegant structure among the modern erections. It was in the vicinity of this city

that Cromwell gained his decisive victory over the Scots, whom he arrested in their progress to place Charles on the throne. It was subsequently to this engagement, that Charles is said to have eluded the vigilance of his enemies, by concealing himself among the thick foliage of an oak. The population of Worcester, in 1811, was nearly 14,000 individuals.

In this enumeration MERTHYR-TYDVIL, situated in the south-eastern part of Wales, must not be omitted, for it is justly “regarded as one of the most striking examples of what may be effected by manufacturing enterprise. Situated in a wild part of the northern boundary of Glamorganshire, and barren of every thing but subterranean wealth, it was known in former times as a place for smelting iron ore. The operations on iron, have since been brought to such a degree of magnitude and perfection, that this spot has become one of the most celebrated in the kingdom for these important branches of national manufacture. A very populous town, or rather an irregular mass of buildings, has been accumulated, inhabited not only by workmen, but by dealers of various descriptions, in the necessaries and conveniences of life.—(*Aikin's England.*)

The manufacturing places of inferior note, are presented in the following general summary, with the respective county, population, and distinguishing productions of each.

<i>Counties</i>	<i>Towns.</i>	<i>Population, 1811.</i>	<i>Distinguishing Productions, &c.</i>
Durham	Darlington	5,059	Table and Napkin Linen.
Yorkshire	Barnesley	5,104	Iron wire, black glass Bottles, and Linen.
	Bradford	7,767	Woollen Cloths and Cotton goods.
	Halifax	9,159	Woollen Cloths and Cotton goods.
	Huddersfield	9,671	Narrow Woollen Cloths.
	Keighley	6,864	Cotton goods, Linen and Worsted.
	Rotheram	2,950	All kinds of cast Iron.
Westmoreland	Wakefield	8,593	Woollen Cloths, Camblets and Fancy Stuffs.
	Kendal	7,505	Woollen Cloth and Fish-hooks.
Lancashire... ..	Blackburn	15,083	Manufacture of Calicoes and Calico Printing.
	Bolton	24,149	Fustians, Counterpanes, Dimities, and Muslins.
	Burnley	4,368	Cotton goods and Shalloons.
	Bury	8,762	Cotton goods, & Calico Printing Works. [Grds.
	Chorley	5,183	Cot. Manufactories, Printing Works, & Bleaching.
	Clithero	1,767	Most extensive Printing Works in the county.
	Haslington	5,128	Woollen and Cotton Manufactures.
	Lancaster	9,247	Cotton goods and Sail Cloth.
	Preston	17,065	Cotton Manufactures.
	Rochdale (parish) ..	37,225	Baize, Serges, Flannels, and other Woollen goods.
Cheshire	Warrington	11,783	Extensive Manufacture of Sail Cloth.
	Wigan	14,060	Linens, Cottons, Brass, and Pewter Works.
	Congleton	4,616	Silk, and Ribbon Manufactures.
	Knutsford	2,114	Cotton Manufactures.
Nottinghamshire	Macclesfield	12,299	Silk, Mohair, and Twist Buttons.
	Stockport	17,545	Cotton Manufactures.
	Mansfield	6,816	Stockings, Gloves, and double Point Net
Leicestershire	Newark	7,236	Cotton Manufacture, and Stockings.
	Retford	2,030	Sail Cloth, Paper, Candle-wicks, and Hats
	Harborough	1,704	Tammies, Shalloons, and other Stuffs.
Derbyshire	Hinckley	6,058	Stocking Manufacture.
	Loughborough	5,400	Hosiery Manufacture.
Derbyshire	Lutterworth	1,845	Cotton Manufacture and Hosiery. [or Spar.
	Derby	13,043	Silk, Porcelain, with ornamental articles of Marble

<i>Counties.</i>	<i>Towns.</i>	<i>Population, 1811.</i>	<i>Distinguishing Productions, &c.</i>
Staffordshire	Bilston	9,646	Hardware, particularly japanned & enamelled goods.
	Burslem	8,615	Principal Potteries in the county.
	Burton	3,979	Cotton trade, and Hats.
	Cheadle	3,191	Copper, Brass, and Tin-works.
	Leek	3,703	Silk and Mohair Manufactures.
	Litchfield	5,002	Sail Cloth.
	Newcastle	6,175	Extensive Manufacture of Hats and Shoes.
	Stafford	4,868	Cutlery Manufacture.
	Tamworth	2,991	Woollens, Calicoes, and Leather.
	Uttoxeter	3,155	Numerous Iron Forges.
Worcestershire	Walsal	11,189	Bridle Bits, and all other articles used in Saddlery.
	Wednesbury	5,372	Guns, Iron Axle-trees, Cutlery & Cast-iron Works.
	Wolverhampton	14,836	Manufacture of Locks and Keys.
	Dudley	13,925	Hardware and Glass Manufactures.
	Kidderminster	8,038	Extensive Carpet Manufactures.
Gloucestershire	Stourbridge	4,072	Cut Glass Manufacture.
	Cirencester	4,540	Curriers' Knives, almost peculiar to it.
	Gloucester	8,260	Manufactures of Pins.
Oxfordshire	Stroud	5,321	Scarlet Cloths.
	Tewkesbury	4,820	Manufactures of Stockings and Nails.
	Whitney	2,722	Finest Blankets, and thick Woollens.
Wiltshire	Bradford	2,989	Superfine Broad Cloths.
	Calne	3,547	Broad Cloths, and Kerseymeres.
	Chippenham	3,410	The same Manufactures.
	Devizes	3,750	Extensive Woollen Manufactures.
Somersetshire	Salisbury	8,243	Knives, Razors, Scissors, and Woollens.
	Trowbridge	6,075	Broad Cloths, and Kerseymeres
	Frome	9,493	Woollen Cloths.
	Shepton Mallet	4,638	Woollen Cloths, and Knit Stockings.
Dorsetshire	Taunton	6,997	Coarse Woollen Cloths.
	Blandford	2,425	Principal Manufactory of Shirt Buttons in England
	Bridport	3,567	Sail Cloth, Cables, Ropes, and Nets.
	Sherborne	3,370	Silk Manufactures.
Devonshire	Axminster	2,387	Best Carpets in England.
	Barnstaple	4,019	Baize, Silk Stockings, and Waistcoats.
	Collumpton	2,917	Broad Cloths, Serges, and Kerseymeres.
	Honiton	2,735	Broadest Lace in the Kingdom.
	Tavistock	4,723	Serge Manufacture
	Tiverton	6,732	Woollen Manufacture

COMMERCIAL TOWNS.—LIVERPOOL is unquestionably the second commercial seaport in the kingdom. Till near the close of the 17th century, it was only a hamlet, in the parish of Walton, but it now contains six handsome churches, and a population of nearly 95,000 inhabitants. Possessing an excellent harbour at the mouth of the Mersey, and having a direct communication with all the manufacturing districts, its trade is general, and its commercial transactions carried on with all parts of the globe. The nefarious trade in the human species, in which Liverpool acquired so much wealth, and so much disgrace, is now happily abolished; but it still maintains an intercourse with the West Indies, while its connexions with America, exceed those of any other British port. It carries on a considerable trade, also, with the Baltic, Spain, Portugal, and Ireland, and several ships are annually sent to the Greenland and other fisheries. The coasting trade employs a considerable number of vessels, and of late years, Liverpool has participated in the advantages of our East-India commerce.

As Liverpool is almost wholly of recent origin, it has little to gratify the votaries of ancient art. But “its public buildings, now adapted to every purpose of convenience, utility, and amusement, have been planned and executed in a style of liberal expense and tasteful decoration, superior to those of almost any other provincial town in England. Several of its new institutions are honorable testimo-

nials of the enlightened spirit by which commercial prosperity has been accompanied; among which may be mentioned two public libraries, on a large scale, and a botanical garden, richly supplied with rare and valuable plants from every part of the globe." In literary societies, Liverpool is also among the first of the provincial towns; and the Royal Institution, designed for the promotion of science, literature, and art, which was opened in November, 1817, promises equal honour and benefit to the town and its vicinity.

BRISTOL, situated between the counties of Somerset and Gloucester, at the confluence of the Avon and Frome, ranks next in commercial importance. In the time of the Saxons, it was called *Brightstowe*, or pleasant place; but it has been greatly enlarged and improved, with the increase of commerce, within the last century. The river is deep and rapid, and the tide flows to the amazing height of 40 feet, allowing vessels of 1000 tons burden to come up to the bridge. The harbour has lately been improved at an expense of £600,000; and its two basins, in which ships are constantly afloat, cover a space of about 40 acres. The commerce of Bristol with the West Indies consists principally in the exchange of manufactured goods for colonial produce, with which it supplies a great part of the west of England, and all South Wales. Sugar is the chief import, and the refining of it is almost exclusively carried on there. But it is not alone with the West Indies that it has established commercial relations. There is scarcely a part of Europe with which it has not mercantile connexions. To Spain it exports home produce and manufactures, and imports fine wool for the supply of the clothiers in the west of England. It also maintains an extensive trade with Portugal and America; participates in the Newfoundland fishery; and enters largely into the commerce of Ireland. By means of the Severn and the Wye, with their confluent streams and canals, Bristol is closely connected with the interior of the country, which it supplies with the products of its own industry, as well as articles imported from foreign climes. *Dr. Aikin* observes, in reference to the employment of a great part of its population, "that the manufactures of this city and its vicinity furnish it with several important articles of exportation. That of glass-making, in its various articles of crown, flint, and bottle-glass, is very considerable, and on the increase. Ireland and America take off great quantities of these goods, especially bottles, of which nearly half the number are sent out filled with beer, cider, perry, and Bristol water. The copper and brass manufactures are of great importance, but are now much declined in consequence of a monopoly. Hard white soap of the best quality is made here in large quantities, much of which is sent to London, as well as to the colonies abroad. Hats, leather, saddlery, shoes, white-lead, gunpowder, and earthen-ware, are all considerable articles of domestic and foreign traffic. The city likewise possesses works for smelting lead, and making lead shot, iron foundries, rolling and slitting mills, and tin works, all which furnish very valuable commodities for exportation." *England Described*.

Many of the houses in the old part of the town are built of wood and plaster, and crowded together in narrow and irregular streets; but those of more recent erection, especially towards the outskirts, are composed of brick or stone, and arranged in spacious streets and squares. The public buildings are characterized by utility rather than splendour. The cathedral contains some good specimens of Gothic architecture; and was originally the collegiate church of a monastery. Bristol contains 19 churches besides the cathedral; and St. Mary Redcliff is one of the handsomest in England. Some of the others are also noble edifices. The population, at the last census, was 76,433.

HULL, or KINGSTON-UPON-HULL, on the northern bank of the Humber, is favourably situated for concentrating the foreign and domestic commerce of the

north-eastern and midland regions of England; an advantage which has been carefully improved, by that spirit of commercial enterprise for which this port has long been distinguished. The encroachments of the sea on the coast of Holderness, caused the merchants of Ravensburn to remove to the village which then occupied a part of the site upon which the present town stands. The mouth of the small river Hull was at first converted into a harbour, and art has now rendered it one of the most complete on the east side of the island. The description already given of the Humber, and the rivers which flow into it, sufficiently shows that Hull possesses the most ample means of collecting the manufactured articles from the interior for exportation, and of distributing its imports in return. This causes its foreign commerce to be extensive, particularly with the Baltic, Hamburg, and Holland; and also with Spain, Portugal, and America. Hull is more extensively engaged in the Greenland and Newfoundland fisheries, than any other of the English ports, and possesses, on a large scale, dry docks, and every other accommodation for building and repairing the vessels engaged in its trade. This town was anciently fortified, and took part with the parliament during the civil wars, when it was personally summoned to surrender by Charles I. and besieged in vain by the Royal troops. Many of its modern streets, as well as its institutions for benevolent or useful purposes, display the increased opulence of the place. Its population, at the last census, was 26,792.

NEWCASTLE, seated on the Tyne, derived its name from a fortress built by Robert, son of William the Conqueror, on his return from an expedition into Scotland, in 1080, and is one of the most important towns in the north of England. Situated in the midst of the great northern Collieries, its trade in that article is immense; but, as the Tyne does not admit ships of large burden to the town, the coals are chiefly conveyed in barges to North and South Shields, at the mouth of the river, where they are finally shipped. Besides this staple trade, Newcastle exports great quantities of lead, salt, salmon, butter, tallow, and other products of the northern counties. Its imports consist chiefly of wine and fruit from the South of Europe, and timber, iron, hemp, and other articles from the Baltic. It is also engaged in the Greenland fishery. Newcastle is a manufacturing as well as a commercial town, and its works in iron, steel, glass, and earthen-ware, employ a great number of its inhabitants. Glass-houses are numerous, and the manufacture of edge-tools extensive. In the old part of the town, the streets are narrow and steep; but in those more recently erected, convenience and elegance have been studied. The steeple of St. Nicholas, one of the parish churches, is in the form of an imperial crown, and much admired for its light and elegant appearance. A handsome bridge over the Tyne, 300 feet long, connects Newcastle with *Gateshead*, on the Durham side of the river, and is a great ornament to the southern entrance. Literature and philosophy have not disdained to visit this northern town, which may also boast of its numerous charitable foundations. Its population, at the last census, was 27,587; and the number of vessels that entered its port, in 1805, was 163 British, and 150 foreign; besides 1452 trading coastwise: total 1765.

EXETER, the next commercial town in importance, bears nearly the same relation to the southern peninsula of the kingdom that Newcastle does to the northern counties. Situated on the estuary of the Ex, a short distance from the south coast of Devonshire, it is not only the capital of that county, but the metropolis and chief emporium of the west of England. The chief trade of Exeter consists in finishing, and exporting several kinds of coarse woollen goods, manufactured in the counties of Cornwall, Devon, and Somerset. These are principally druggets, long ells, and serges, which are purchased of the manufacturers as they come from the loom; and after being milled, dyed, and dressed, are chiefly

exported to the south of Europe, Germany, and Holland. The annual value of these exports has been estimated at £600,000; besides which, the East India Company usually purchases long ells, of the Exeter merchants, to the amount of about £150,000, part of which is shipped at that port, and the rest sent to Dartmouth and Plymouth. As the counties in which these cloths are made do not yield sufficient wool for the supply of the manufacture, the trade of Exeter is increased by the importation of that article, considerable quantities of which are annually brought from Kent. Exeter likewise imports dyeing drugs, wine, and fruit, from the south of Europe; linens from Germany; and hemp, iron, timber, and tallow, from the Baltic. It also supplies the adjacent country with coals, both from Wales and the northern counties of England; while several of its vessels are engaged in the London trade, and in the Newfoundland and Greenland fisheries.

The Cathedral is a magnificent structure, chiefly of the thirteenth and fourteenth centuries. The architects having adhered to a uniform design, it has more congruity of parts than most other English edifices of the same kind. Besides the tombs of the Bishops, it contains monuments of the Bohun and Courtenay families, and other distinguished persons. The city has fifteen churches within the walls, and four in the suburbs; but they are principally small, and present nothing remarkable. Exeter contains many superior houses. The Bishop's palace is a venerable fabric, built or enlarged by Bishop Courtenay, in the reign of Edward IV. The public buildings are the Guild-hall, the County Infirmary, the New County Gaol, and the Bridge over the Ex. An improved navigation from Topsham, admits vessels of 150 tons burden to a commodious quay within the walls of the city. The population of Exeter, at the last census, was 18,896.

YARMOUTH, situated at the mouth of the Yare, on the east coast of Norfolk, has long been ranked among the chief sea-ports of the kingdom. Though modern circumstances have now conferred the superiority on some other ports, more immediately connected with the central regions of the country, Yarmouth is still important as a sea-port and fishing-town. By means of its river, communicating with the interior, it enjoys the whole export and import of the Norwich trade, with that of many other places in both Norfolk and Suffolk, which it supplies with various foreign imports, besides fish, the produce of its own industry, and other articles, obtained coastwise. Its harbour will not admit ships of large burden, but those of a moderate size go up to the quay. One of its most beneficial sources of commerce, is its extensive concern in the fisheries. Besides those of Greenland, in which it participates, the most lucrative is carried on near its own shores, for mackerel, in the early part of summer, and in the autumn, for herrings. The mackerel is sent to London, and the interior of the country; but the herrings are cured, by first salting, and then drying them in wood smoke. These are either disposed of for home-consumption, during the subsequent months, or exported to the southern countries of Europe. This is the largest fishery on the English coast, and not only employs all the boats belonging to the town and its vicinity, but several from the other fishing ports in the north-east part of the island. About 60,000 barrels are cured in a season. The town was anciently encompassed by a wall, and the desire to crowd the greatest population into the least space, caused a singular plan of building to be adopted. Yarmouth consisted of ~~four~~ principal streets, running from north to south, connected together by about 150 narrow allies; but a broad passage has lately been opened from east to west, which greatly facilitates the communication between the different parts of the town. Yarmouth has only one parish church. Being frequented by the inhabitants of the adjacent parts of the country, as a place for sea-bathing, it has suitable accommodations for that purpose. The population amounts to about 18,000.

SOUTHAMPTON, situated on a bay of that name, near the middle of the southern coast of England, is not only a place of extensive commerce, but a large and handsome town. It rose to consequence during the early period of the English history. It was anciently surrounded with walls, some fragments of which alone remain to attest their former existence. The extensive foreign commerce which Southampton once enjoyed, has been in a great measure transferred to other ports more favourably situated for the export of our manufactures. It still, however, maintains a commercial intercourse with France, and the south of Europe; and is much noted for its import of wines, with which, as well as fruits and other foreign articles, it supplies a great part of the south of England. The beauty of its situation, and its conveniences for sea-bathing, have rendered it the residence of the wealthy, and the resort of numerous visitors. These attractions are increased by a *Chalybeate* spring. Southampton contains six parish churches, two of which arrest the attention of the observer; St. Michael's, for its curious and ancient structure; and All Saints, for its modern elegance. It was here that Canute reproved his flattering courtiers, when the flowing tide refused to obey the royal mandate; and here, also, the intrepid Henry V. assembled his troops, for the conquest of France. The population of Southampton is about 9,620.

The most commercial town in Wales, is SWANSEA, situated at the mouth of the Tawy, on a bay of the Bristol Channel. The harbour has lately been greatly improved by the erection of piers, and other works. The abundance of coal, iron, copper, and lead ore, in its vicinity, supplies Swansea with several articles of export, which are increased by its manufacture of elegant earthenware, its soap and lime works, and the large smelting houses in its neighbourhood. The Tawy, and a canal, afford a communication with the interior, and its trade with the south of England and Ireland is extensive. Swansea is a handsome town, with a population of nearly 8,200 individuals.

Having thus described a few of the principal commercial ports, the others shall be merely enumerated, as has been already done with respect to the manufacturing towns.

<i>Counties.</i>	<i>Towns.</i>	<i>Population, 1811.</i>	<i>Chief Exports.</i>	<i>Principal Imports.</i>
Northumberland ..	North Shields	7,699	The same as Newcastle.	
Cumberland.....	Whitehaven	10,106	Coals & Agricultural Prod.	West India Produce.
	Workington.....	5,807	Coals and do.	Less quantity of the same.
Lancashire	Lancaster.....	9,274	Cabinet Ware, Candles	West India Produce.
Durham	South Shields	9,001	Articles from Newcastle.	
	Stockton	4,229	Shipping & Agricul. Prod.	Wines, Fruits, &c.
	Sunderland with two Wearmouths }	25,180	Coals, Lime, and Glass.	Baltic & W. India Prod.
Yorkshire.....	Whitby	6,969	Ships and Alum.	Wines, Fruit, Sugar, &c.
Lincolnshire.....	Boston	8,180	Corn, chiefly Oats.	Timber, Hemp, Iron, Fruit.
Norfolk	King's Lynn.....	10,259	Corn and Malt.	Coals, Timber, Wines.
Suffolk	Ipswich	13,670	Corn and Malt.	E. & W. I. goods & Wines.
	Lowestoff.....	3,189	Herrings.	
Dorsetshire	Woodbridge		Flour, Corn, Malt, Lime.	} Goods from London.
	Pool	4,816	Fish, Corn, and Oysters.	Coals, Timber, Ame. Pro.
Devonshire	Dartmouth	3,595	Fish to the south of Europe.	Wine, Oil, Fruit, &c.
	Ilfracombe	1,924	Chiefly engaged in the coasting trade.	
Cornwall	Penzance	4,022	Tin and Pilchards.	
	Truro	2,482	Tin and Copper ore.	
Somersetshire	Bridgewater	4,911	Cheese and Manufactures.	Timber, Iron, W. I. Prod.
Caermarthenshire	Caermarthen	7,275	Iron and Tin plates.	E. and W. India Produce.
Glamorganshire ..	Cardiff.....	2,457	Cast & Wrought Iron & Tin Plates.	

PRINCIPAL NAVAL PORTS.—In describing a few of the chief *Naval Ports* of Britain, PORTSMOUTH claims the first notice. It is situated on the southern part of the island of Portsea at the entrance of a spacious haven, where nature and art

have combined to render it worthy of its distinction, as the grand naval arsenal of the first maritime power on the globe. This haven is secure from almost every wind, and has sufficient water to float the largest ships at all times. It has a good anchorage, and is capable of containing the whole British navy at once. Its entrance is narrow but free. Bordering on a fertile country, Portsmouth commands an abundant supply of fresh provisions for the mariners while in port, and excellent timber for the building and repairing of vessels. The grand rendezvous of the Royal Navy is at Spithead, between the mouth of this harbour and the Isle of Wight, a noble road extending about twenty miles, and capable of receiving an almost unlimited number of ships. In addition to these natural advantages, Portsmouth has been strongly fortified, on the land side, and is defended by batteries towards the sea. The Dock-yard is not only supplied with appropriate buildings for preserving the naval and military stores, but it is rendered remarkably complete by the adoption of every means which art could suggest. It contains all the manufactories requisite for supplying every kind of naval equipment, on the most extensive and admirable plan. Some of the machinery is worked by steam engines of the largest power, which are constantly producing the most astonishing effects. The influx of mariners and others, caused by these establishments, creates a great traffic, and renders Portsmouth one of the busiest scenes in the kingdom. The streets are in general crowded, narrow, and dirty. The population, including that of *Portsea*, which is a mere enlargement of the town, amounted, at the last enumeration, to 40,567.

GOSPORT, on the west side of the entrance to Portsmouth harbour, is also a large and populous place, containing various establishments, connected with the naval department of Portsmouth. Among these are store-houses, barracks, and an extensive hospital for sick and wounded seamen, of the royal navy. The population, in 1811, was 12,212.—Nothing can be more exhilarating to the naval hero, more animating to the true patriot, or more depressing to the ambitious enemies of Britain, than this scene of constant activity, associated, as it is, with our maritime greatness in every quarter of the globe, and illustrated by the view of our assembled bulwarks in front, riding in all the pride of majestic triumph.

PLYMOUTH, at the confluence of the Plym and the Tamar with the sea, yields in superiority to Portsmouth alone. These rivers fall into a bay which forms an excellent harbour, of the greatest importance as a rendezvous for the Channel Fleet in time of war. This has caused the natural advantages of the place to be improved by art, and dock-yards, arsenals, fortifications, and all other conveniences for fitting out large fleets, have been added. The consequent influx of people, caused by those establishments, has gradually converted a few fishing huts into a large and populous town, now the seat of an extensive domestic and foreign commerce. It may be supposed that such being the progress of its growth, it presents little display of architectural beauty. The town, in fact, is ill laid out, and the streets are narrow and inconvenient, with only two spacious churches; but various places of worship belonging to the Dissenters. At a short distance from Plymouth is the *Dock*, altogether a naval erection of recent date. The number of inhabitants in Plymouth and the Dock, at the last enumeration, exceeded 56,000.

The situation of DEAL, opposite the *Downs*, and the approximation of these to the coast of France, render it a naval station of importance; but it possesses neither the natural advantages, nor the artificial improvements, of Portsmouth and Plymouth. The shore being flat and sandy, Deal is a common place for embarking and landing troops; and, as it also supplies the numerous ships that lie in the Downs with necessaries, it is often rendered a busy scene. Several of the King's ships, especially during war, are stationed here. A depôt of naval stores is kept for their

supply, and a garrisoned castle maintained for its defence. The population, in 1811, was about 7350.

CHATHAM, on the Medway, a few miles above where it joins with the Thames in forming the Nore, is a port of great naval consequence, not only as a place where many of the largest ships are laid up in time of peace, but for their construction in time of war. The dock-yard is extensive, and well supplied with stores of every description, while the whole is secured by fortifications, under a regular guard of troops. These have lately been rendered a source of practical instruction for the royal engineers, as well as a protection for the place. The population, in 1811, was 12,652.

SHEERNESS, in the island of Sheppey, separated from the main land by a branch of the Medway, and only a few miles below Chatham, likewise contains a royal dock-yard, with suitable convenience for building and repairing vessels. The mouth of the Medway is defended by a fort, and on the right bank stands Sheerness. It is inhabited almost entirely by those connected with the naval establishment. Its population, at the close of the war, amounted to nearly 2000 individuals.

Extensive dock-yards, with corresponding naval departments, have also been formed at WOOLWICH and DEPTFORD, on the right bank of the Thames, where many ships of the first rate have been built; but the river has not sufficient depth of water for the largest ships, with their guns and stores, to come up to those places. Woolwich is still more distinguished for its *Royal Arsenal*, which is not only the chief depôt, but the principal place in the kingdom for the construction of every species of naval, military, and ordnance stores. A stranger viewing the immense quantities of these stores, frequently to be seen there during the late war, would have supposed them sufficient for the supply of all Europe for many ages. Woolwich is likewise the head-quarters, and general depôt of the Royal Artillery, whose barracks are large and handsome. At a short distance from these is the Royal Military Academy, where the officers for this corps, and the royal engineers, are instructed in various branches of science, and of the military art. Each of these towns contained a population of nearly 20,000 persons during the war; but the numbers have greatly declined since the return of peace.

HARWICH, in Essex, contains a yard for the royal navy, in which vessels of inferior rates are built and repaired. A dock-yard has been formed also, and a Custom-house built, at MILFORD-HAVEN, in Pembrokeshire, one of the most capacious natural harbours in Great Britain. Its remote situation, however, renders it of less utility than most of the preceding places. It was at this haven that the Duke of Richmond, afterwards Henry VII. landed, in his enterprise against the tyrant Richard III.

To the above description of maritime stations, may properly be added an enumeration of the principal places from which the government packets generally sail during peace.—*Harwich* is the station for those to Holland, Germany, and the north of Europe.—*Dover* for those to France and the Netherlands.—*Southampton*, to Jersey and Guernsey.—And *Falmouth* for the south of Europe, and the east, as well as America, and the West Indies.—From Milford-Haven, the packet sails to Waterford.—And from Holyhead to Dublin.

CHIEF PLACES OF FASHIONABLE RESORT.—The places of *Fashionable Resort* in England, are naturally divided into two distinct classes. Those on the *coast*, and those in the *interior*.—In describing the first, the pre-eminence is due to BRIGHTON; while of the second, it is with equal propriety assigned to the elegant city of BATH.

Brighton, on the coast of Sussex, was, till a recent period, chiefly inhabited by fishermen, but the omnipotent influence of fashion has converted it at once into the largest, the handsomest, and the most populous town in the county, and

one of the best frequented and most elegant bathing-places in the kingdom. It occupies two opposite declivities, terminating in a lawn, the central part of which forms the grand *promenade* called the *Steyne*. The town is almost entirely a new erection. Most of the streets consist of commodious houses, adapted to the accommodation of strangers, in addition to the resident population. The preference given to Brighton for sea-bathing, was originally derived from its proximity to the metropolis, and the salubrity of its situation; but the want of wood on the *Downs*, which run close to the town, precludes that varied luxuriance of prospect which it would otherwise possess. Convenience was, however, soon aided by the more powerful influence of fashion, when his present Majesty fixed upon it as the place of his summer residence, and caused an elegant Marine Pavilion to be erected for that purpose, in 1784. This is situated near the north-west corner of the *Steyne*, with a front of about two hundred feet in length. Many subsequent improvements have been made in the original structure, to increase both its external and internal elegance, and it is now converted into one of the most complete *oriental edifices* in the west of Europe.—It is almost superfluous to add, that Brighton contains all that convenience or amusement can suggest, or the votaries of dissipation require. It is also a place of embarkation for France, and vessels sail almost daily for Dieppe. The resident population, in 1811, was about 12,000, having experienced an augmentation of more than 5000 during the preceding 10 years; but this amount has been greatly increased since that time. At certain periods of the year, the mere temporary visitors are supposed to amount to nearly an equal number. There is a chalybeate spring, north-west of the town, the waters of which have been beneficial in various complaints.

The frequent visits of the Royal Family to WEYMOUTH contributed to render that place the next in fashionable estimation, though not so, either in the number of its resident inhabitants, or its occasional visitors. Situated on a peninsula about the middle of the Dorsetshire coast, the fineness of its beach, and the balmy softness of the air, render Weymouth well adapted for sea-bathing. Its buildings are numerous and elegant, and contain every thing requisite for the convenience or pleasure of its numerous visitants. Since the port has been obstructed by the sands, the trade has greatly diminished, and very little is now carried on. Its resident population, in 1811, was only 1747, though it had increased by more than one-fourth during the preceding 10 years.

MARGATE, on the northern side of the Isle of Thanet, has lately become a place of great resort, to which the facility of access, afforded by the packets daily from the metropolis, has greatly contributed. The town is pleasantly situated on a declivity, which originally constituted the little fishing-town of St. John's. The principal improvements of Margate have taken place since 1787, when an act of Parliament was obtained for rebuilding the Pier with stone. Since that time, a new town has sprung up, on the south of the old one, many parts of which are distinguished by elegant modern structures. The resident population of Margate, in 1811, was 6126; but it has since greatly increased. Its summer visitors are very numerous.

RAMSGATE is a pleasant and convenient place for sea-bathing, on the opposite side of the Isle of Thanet, and about five miles south of Margate. The lower part of the town is seated in a valley, but the upper commands a delightful view of the English channel, the Downs, and the coast of France. Many handsome and commodious streets, as well as buildings, have been lately erected, in which it rivals Margate. Ramsgate is partially engaged in foreign commerce. Its harbour admits vessels of 500 tons burden, and its pier, lately built of Portland and Purbeck stone, is the most magnificent in the kingdom. Population, in 1811, 4221.

SCARBOROUGH, rising like an amphitheatre from a fine bay, on the eastern

coast of Yorkshire, has long been the chief place of summer resort, in the northern parts of the kingdom, on account of its sea-bathing and mineral waters. The principal streets are well built, and the new erections, on the cliff, are remarkable for their delightful situation and prospect. The ancient castle, built in the reign of Stephen, was long its pride and defence, and its venerable ruins, even now, form one of its chief ornaments. Boldly situated on a lofty promontory, faced on three sides with perpendicular rocks, it appears almost impregnable; but it was twice taken by the Parliamentary troops, during the civil wars, in the reign of Charles I. The appearance of Scarborough from the sea, is peculiarly romantic. Its sands are smooth and extensive, and the surrounding scenery bold and variegated. The mineral waters flow from two springs, called the Spa, at the foot of a steep cliff, about a quarter of a mile south of the town, and nearly on a level with the high water mark. Though very near each other, the one is purgative, and the other chalybeate. Scarborough is the only commodious harbour between the Tyne and the Humber capable of completely sheltering ships of large burden during violent gales from the east, but it is difficult of entrance at such times. Ship-building, fisheries, and the coasting trade, with agricultural pursuits, constitute the chief employment of its inhabitants, who amounted to 7067 at the last enumeration.

Passing from the eastern coast of England, to the southern shore of Wales, we meet with SWANSEA, the most elegant and commercial town in the principality. It rises gently from the broad smooth sands of an extensive bay, on the side of the Bristol Channel, and is, in general, well built. Its beautiful situation, genial climate, and appropriate accommodations, attract numerous visitors, during the bathing season, who render it a lively and interesting scene. Swansea has already been mentioned with respect to its population and commercial state.

The prevailing fashion of converting the whole line of sea-coast into a series of bathing places, would render even an enumeration of all those of inferior note tedious. A few, however, shall be given, as they occur, from the mouth of the Tweed to the top of the Solway Firth.

<i>Counties.</i>	<i>Bathing Places.</i>
Northumberland ..	Tynemouth.
Durham	Hartlepool.
Yorkshire.....	{ Redcar.
	{ Cotham.
	{ Bridlington Quay.
Norfolk	{ Cromer.
	{ Yarmouth.
Suffolk.....	{ Lowestoff.
	{ Aldborough.
Essex	{ Harwich.
	{ Southend.
	{ Broad Stairs.
Kent.....	{ Dover.
	{ Folkstone.
	{ Sandgate
	{ Hastings.
	{ East Bourne.
Sussex	{ Newhaven.
	{ Worthing.
	{ Bognor.

<i>Counties.</i>	<i>Bathing Places.</i>
Hampshire	{ Southampton.
	{ Lyminster.
	{ Cowes, Isle of Wight.
Dorsetshire	{ Lyme Regis
	{ Sidmouth.
	{ Exmouth.
Devonshire	{ Dawlish.
	{ Teignmouth.
	{ Ilfracombe.
	{ Appledore.
Cornwall	{ Povey.
Somersetshire	{ Minehead.
Pembrokeshire ...	{ Tenby.
Cardiganshire	{ Aberystwyth.
Merionethshire ..	{ Towyn.
	{ Barmouth.
Anglesey	{ Beaumaris.
Denbighshire	{ Abergelly.
Flintshire	{ Flint.
Lancashire	{ Blackpool.
Cumberland	{ Allonby.

At the head of the second class of places of fashionable resort, must be placed the elegant city of BATH, situated on the river Avon, near the south-eastern extremity of Somersetshire. The hot springs, which have contributed so much to the celebrity of this city, are among the most renowned in Europe, and have been known and frequented ever since the time of the Romans, who ascertained their

valuable properties, and made baths for their more effectual application. The waters are not only drunk medicinally, but used for bathing; and are always found to be highly beneficial in various complaints, particularly in gouty, paralytic, bilious, and rheumatic cases. There are now five baths, in which the temperature of the water varies from about 93 to 117 degrees of Fahrenheit's thermometer. These advantages have long rendered Bath a place of great resort, and caused many handsome buildings to be erected, which have gradually converted it into one of the most elegant cities in England. It has now become the residence of numerous wealthy families, and is annually visited by many persons of rank and fashion, from all parts of the kingdom. Bath is, therefore, equally attractive to the votary of pleasure, by the gaiety of its society, and to the afflicted, by the efficacy of its waters. The houses are constructed of fine white stone, which abounds in the neighbourhood, and adds greatly to the beauty of the city. Bath was long situated in the valley, but the new buildings gradually arose above each other, on the side of the hill towards the north, till they now crown its very summit, where they seem to tower with proud pre-eminence over the equally elegant and extensive structures beneath. The *tout ensemble* can scarcely be surpassed in picturesque effect.

Bath is divided into four parishes, and the most venerable ecclesiastical edifice is the Abbey Church, which is in the florid Gothic style, and was completed in 1532. Its interior is richly ornamented, and contains several monuments of distinguished persons. In addition to its parochial churches, Bath possesses several elegant chapels in the establishment, with other places of worship belonging to the dissenters. One of the most noted public buildings, is the General Hospital for the reception of the poor from all parts of the kingdom, whose cases require the use of the Bath waters. Besides this, there are other charitable institutions, equally honourable to those by whom they are supported, and beneficial to the objects to which they are dedicated. The number of inhabitants, in 1811, was 31,496; but the mean population, including the suburbs, has lately been estimated at more than 38,000, in which the females exceed the males by nearly 8000.

CHELTENHAM is much celebrated for its mineral waters, and is pleasantly situated in a fertile vale, near the foot of the Cotswold hills, about the middle of Gloucestershire. These waters were first brought into notice in 1716, and increased in reputation till the original spring was inadequate to the demand. A more copious supply, however, being discovered in 1803, great improvements have since been made, and the annual number of visitants is now estimated at 6000. The waters are chiefly used as a laxative and restorative to invalids. The town consists of one principal street, nearly a mile in length, with many neat villas, lately erected in its environs. The population of the parish, in 1811, was 8325, but it has since greatly increased.

CLIFTON, situated on an eminence above the river Avon, and overlooking the Bristol Hot-Wells, can scarcely be exceeded in beautiful and romantic scenery. The salubrity of the air has caused it to be regarded as the Montpelier of England, and its vicinity to the Hot-Wells attracts numerous visitors, for whose accommodation many handsome buildings have been erected. The crescent is one of the most extensive in England. The waters at the Wells flow copiously from an opening in the rock near the bottom of the cliff, and have a temperature of from 72 to 76 degrees Fahrenheit. These waters have been found a powerful specific in some complaints. The population, at the last enumeration, was 6981, but is now much greater.

TUNBRIDGE WELLS, situated on the Sussex border of the county of Kent, was a place of great repute, for its medicinal waters, in the seventeenth century; but

fashion, which first impairs our health, and then regulates even the manner of its restoration, has transferred to other places, of more recent celebrity, the distinction which once belonged to this spot. The efficacy of its waters, however, aided by the beauty of the surrounding scenery, still continues to attract a great influx of summer visitants. The principal buildings are on three hills adjacent to the wells. The waters are chalybeate, and strongly impregnated with iron. The resident inhabitants amount to about 2000.

The saline springs of LEAMINGTON PRIORS, about two miles from Warwick, have lately begun to attract attention, which has been followed by the usual preparations for the accommodation of strangers.

The waters and scenery of Derbyshire have long been celebrated. "BUXTON a village in the lower Peak, near the Cheshire border, situated in a hollow, surrounded by high and dreary moors, is famed for its waters. The temperature of these springs is about 82 degrees of Fahrenheit's thermometer, which being lower than those of Bath, is more agreeable for the purpose of bathing. Used in this manner they are found very efficacious in the cure of various disorders, especially of the rheumatic kind. They are also taken internally, in nephritic and bilious cases, with good effect, though their mineral impregnation is very slight. Their reputation has occasioned a great influx of company; and a number of large and commodious buildings have been erected for their use, in a place otherwise the most dreary and unpleasant that can be conceived." The architectural boast of Buxton is the magnificent Crescent, built by the late Duke of Devonshire, at an expense amounting to about £120,000. The whole range of buildings, which are appropriated to the reception of visitors, accommodate about 1000 persons. St. Ann's well, at which the water is generally drunk, is considered one of the seven wonders of the Peak, as a hot and a cold spring issue at small distances from each other. The resident population of Buxton is nearly 1000 persons.

MATLOCK, in the same county, and near the banks of the Derwent, is also much frequented on account of its warm baths, the beauty of its situation, and the romantic scenery with which it is encompassed. The buildings are capable of accommodating about 500 people.

The only remaining place of this kind worthy of notice is HARROWGATE, situated about three miles from Knaresborough, in the west Riding of Yorkshire. The springs at this place are of two kinds, chalybeate and sulphureous, the latter being the strongest in Great Britain, and the most distinguished for their efficacy in scorbutic and other cutaneous complaints. The village of Harrowgate is divided into high and low. The first, containing the chalybeate springs, is about a mile from the other, where the sulphureous waters are situated. The celebrity of these waters causes a great influx of company from all parts of the kingdom, during the season, which extends from April to October, and has converted two poor and obscure villages, seated on the edge of an unproductive common, into a place of fashionable distinction. The visitors are chiefly accommodated at a number of spacious and commodious Inns. The resident inhabitants are about 1500.

MISCELLANEOUS PLACES—We shall conclude this chapter with an account of a few places, which could not with propriety be arranged under any of the preceding heads; and the seats of the two celebrated Universities will claim the first notice.

OXFORD, independently of the buildings belonging to the University, is a handsome and well-constructed city, ranking high among the provincial capitals of the kingdom. It is favourably situated on a gently rising ground, at the confluence of the Cherwell and the Isis, amidst extensive meadows. The streets are spacious, and the buildings elegant; and few cities have a more imposing appear-

ance. Oxford is also a place of great antiquity. It was often burnt by the Danes, but Alfred the Great restored several of the colleges or halls, and it became subsequently the frequent residence of the British sovereigns, some of whom summoned their Parliaments to meet within its walls. Charles I. held his court here during the civil wars, which made it the centre of the military operations in that and the surrounding counties. Oxford contains fourteen parishes; and of its churches, All Saints, St. Peter's, and St. Mary's, deserve the stranger's particular attention. Among the other public buildings, independently of the colleges, the Bodleian Library, containing the most valuable collection of books in Europe, except the Vatican, the Radcliffe Library, the Observatory, the Ashmolean Museum, the Clarendon printing-house, and the schools, all deserve notice. Oxford contains twenty Colleges, and five Halls, many of which are elegant, and richly endowed; "The appearance of these edifices, and other public structures, some of ancient, and others of modern architecture, disposed in the spacious streets of a city of itself handsomely built, and finely situated, produces an effect singularly striking and majestic." The particular objects which deserve attention in these edifices, are too numerous to be noticed in this place; we shall, therefore, only enumerate the Colleges themselves, with the eras of their foundation, and the names of the founders.

COLLEGES.

<i>Names.</i>	<i>Founders' Names.</i>	<i>Eras of Foundation.</i>
1. University College	First by Alfred, but restored by Walter Shirlaw, Bishop of Durham	1249
2. Merton College.....	Walter Merton, Bishop of Rochester	1267
3. Baliol College	Sir John Baliol, Father of John, King of Scotland.....	1269
4. Exeter College.....	Walter Stapleton, Bishop of Exeter.....	1314
5. Oriel College	Adam de Brome, Almoner to Edward II.....	1324
6. Queen's College	Robert Eglesfield, Chaplain to Queen Philippa	1340
7. New College.....	William de Wykeham, Bishop of Winchester.....	1379
8. Lincoln College.....	Richard Fleming, Bishop of Lincoln.....	1427
9. All Souls College	Henry Chicheley, Archbishop of Canterbury	1438
10. Magdalen College	William de Wainfleet, Bishop of Winchester	1458
11. Brazen Nose College ..	William Smith, Bishop of Lincoln	1509
12. Corpus Christi College..	Richard Fox, Bishop of Winchester	1516
13. Christ Church	Cardinal Wolsey	1525
14. St. John's College	Sir Thomas White, Alderman of London.....	1557
15. Jesus College	Queen Elizabeth; endowed by Hugh Price	1571
16. Trinity College	Sir Thomas Pope	1594
17. Wadham College	Nicholas Wadham, of Merrifield, in Somersetshire	1613
18. Pembroke College	Thomas Tesdale, of Glympton, Oxfordshire	1620
19. Worcester College	Sir Thomas Coke, of Bentley, Worcestershire	1714
20. Hertford College	Separated by Patent from Exeter College.....	1740

HALLS.

1. Alban Hall Robert de St. Alban, Citizen of Oxford.
2. St. Edmund's Hall Established in the reign of Edward III., and consigned to Queen's College in 1557.
3. St. Mary's Hall Belonging to Oriel College.
4. New Inn Hall Granted to Students by John Trillock, Bishop of Hereford.
5. Magdalen Hall William de Wainfleet, designed for the Choristers of Magdalen College.

The seat of the other English University is CAMBRIDGE, the capital of the county of that name, situated on the banks of the Cam, over which it has several bridges. The streets of Cambridge being narrow, and the buildings irregular, its general appearance is far inferior to that of Oxford. Cambridge contains fourteen churches, but only two of them deserve notice; St. Mary's, as that in which the Members of the University attend public worship; and St. Sepulchre's, as presenting a curious specimen of Saxon architecture. It is built in a circular form, and

said to have been erected by the Knights Templars, in imitation of the Holy Sepulchre, at Jerusalem. No manufacture of importance is carried on at Cambridge, and the navigation of the river is little employed for commercial purposes. Its chief articles of merchandize, besides what are requisite for the supply of its own consumption, are corn, oil, and iron. The population, at the last enumeration, was 11,108.

The celebrity of Cambridge is, therefore, derived from its University, the fame of which has long been established in the most distant regions. "The number of colleges and halls at Cambridge, amounts to seventeen, although the dispersion of most of them into narrow crooked streets, and the humble architecture of some, render the general appearance of the University much inferior to that of Oxford; yet there are points of view in the former, more striking than any in the latter; and the edifice of King's College Chapel, the pride of the English Gothic architecture, has no rival of the kind in the sister University." The exterior dimensions of this chapel, are 316 feet in length, 84 in breadth, 90 in height, to the top of the battlements, and 56 feet 6 inches more to the top of the corner towers. The whole of the interior is adorned with a profusion of the richest architectural ornaments, not deprived of their effect, as in many other instances, by extraneous monuments, figures, or inscriptions. Its roof is a superlative specimen, in which taste, skill, and ingenuity are combined, the mode of its construction always exciting astonishment. Most of the windows are composed of finely-painted glass, representing subjects of scripture history. The Senate-house, where degrees are conferred, and other public business of the University transacted, is a handsome building, composed of Portland stone, and begun in 1722. Besides these, several of the colleges, the public Library, and the Botanic Garden, are well calculated to gratify the curiosity of strangers.

The Colleges and Halls belonging to this University, with the names of their founders, and the date of their foundation, are as follow.

COLLEGES.

<i>Names.</i>	<i>Founders' Names.</i>	<i>Eras of Foundation</i>
1. St. Peter's College	Hugh Balsham, Bishop of Ely.....	1257
2. Gonville and Caius College ..	Doctors Gonville and Caius	1348
3. Benet College	Henry Duke of Lancaster	1351
4. King's College	Henry VI.	1441
5. Queen's College	Margaret of Anjou.....	1448
6. Jesus College	John Hook, Bishop of Ely	1496
7. Christ's College	Margaret, Mother of Henry VII.....	{ 1503
8. St. John's College.....		
9. Magdalen College.....	Edward Stafford, Duke of Buckingham	1519
10. Trinity College.....	Henry VIII.	1546
11. Emanuel College	Sir Walter Mildmay	1584
12. Sydney College.....	Frances Sydney, Countess of Sussex	1598
13. Downing College	Sir George Downing.....	1800

HALLS.

1. Clare Hall.....	Richard Baden, Chancellor of the University	1326
2. Pembroke Hall	Mary de Valentia, Countess of Pembroke	1343
3. Trinity Hall	William Bateman, Bishop of Norwich	1350
4. Catharine Hall	Doctor Woodlark	1475

WINDSOR, from its having been the favourite residence of the British Monarchs, for more than seven centuries, deserves the next place in this list. It is situated at the eastern extremity of Berkshire, on the right bank of the Thames, and contains many good buildings, with a population of more than 6150 inhabitants.

But the circumstance which has at all times conferred the greatest interest, and the most valuable privileges on this town, is its connexion with the residence of royalty. Its principal ornament is its magnificent Castle, first erected by William the Conqueror, but further improved and adorned by its subsequent regal possessors. Edward III., who was born there, almost entirely rebuilt it, and may, therefore, be regarded as the founder of the present edifice, though Charles II. restored it to its primitive splendour. This royal abode is delightfully situated on an eminence, having an extensive command of the Thames, and the rich and beautiful country beyond that river. It was here that Edward instituted the order of the Garter, the Knights of which are always installed in St. George's Chapel, near the palace, and which is esteemed one of the most elegant specimens of the florid Gothic in the kingdom. In this chapel is the cemetery built by George III., for the interment of himself and family. There have been deposited, within the short space of two years, the late Princess Charlotte and her infant, her late Majesty Queen Charlotte, his R. H. the Duke of Kent, and last, the venerable Monarch himself. Two other royal residences also adorn the vicinity of Windsor, both erected during the reign of his late Majesty. These are the late Queen's Lodge, situated opposite the south side of the Castle, and designed as the residence of the Royal Family when at Windsor; and the other at Frogmore, about half a mile from Windsor, which was the Queen's private property.

Between Windsor and Staines lies RUNNYMEAD, so justly celebrated in the English annals, and so highly venerated by every true patriot, as the place where the Barons, in the 13th century, obliged their pusillanimous and degraded monarch to sign the famous *Magna Charta*.

The city of WINCHESTER, the capital of Hampshire, situated near the centre of that county, is not surpassed in ancient fame by any other city in the kingdom. For several centuries subsequently to the termination of the Saxon heptarchy, it was the metropolis of England; and, notwithstanding all the changes of modern times, it yet continues a venerable city, exhibiting many specimens of its ancient splendour. The streets are wide and clean: many of the buildings are antique, and fragments of the ancient walls still remain. The Cathedral is one of the most interesting buildings in Britain, whether the edifice or the celebrity of the persons who have been connected with it, be considered. It was originally erected in the 11th century, but partly rebuilt by William of Wykeham, towards the close of the 14th. Among the eminent Prelates of Winchester, were Wykeham, Waynfleet, Fox, and Cardinal Beaufort, whose shrines are ornaments to this Cathedral. Among the other public buildings of Winchester, are the remains of an unfinished Royal Palace, commenced in the reign of Charles II., under the directions of Sir Christopher Wren, and which has lately been used as a residence for French emigrants and prisoners. Winchester College, founded by William of Wykeham, is still one of our most renowned public schools, at which many men of eminent talents and distinguished attainments have received the rudiments of their education. Twelve of the numerous churches that once adorned this ancient city yet remain. Several of them, with the City Cross, the Infirmary, the Town Hall, and the New County Gaol, are conspicuous objects. The population of Winchester, when last enumerated, was 6705.

HASTINGS is more remarkable for the celebrity it has attained in the annals of Britain, than for its present importance. It is pleasantly situated between two hills, on the coast of Sussex, and is supposed to have originated from a fort built by Hastings, a Danish Pirate, to secure the retreat of his men, after plundering the adjacent country. Hastings is one of the principal of the Cinque Ports, but it has greatly declined from its ancient consequence. It now depends for support

chiefly upon the fishery and sea-bathing. The beauty and salubrity of the situation have rendered Hastings a favourite summer resort, and many improvements have lately been made to accommodate the increasing number of its visitants. What renders it, however, particularly worthy of notice, is its connexion with one of the most remarkable events in British history. When William the Conqueror landed on the coast of Sussex, in 1066, he assembled his troops at Hastings, and was met near that place by Harold, the English monarch, who was slain in the conflict; a conflict so decisive, that it gave the crown of England to William and his posterity. The population of Hastings, in 1811, was 3848; but it has since increased.

CANTERBURY presents a double claim to notice, as the first seat of Christianity in this country, and as the archiepiscopal See of all England. Pope Gregory I., having had his compassion excited by the beauty of some British youths exposed for sale in the streets of Rome, sent a mission of Benedictine Monks, with Augustine at their head, to Ethelbert, king of Kent, for the purpose of converting that monarch and his subjects from Paganism to Christianity. The labours of the Roman missionaries were soon crowned with success, and Augustine was shortly afterwards installed archbishop of Canterbury, then the metropolis of Ethelbert's dominions. Canterbury has, therefore, enjoyed the honour of being a metropolitan See ever since the close of the sixth century; but it has subsequently been extended to the whole of England. Its cathedral is a spacious and magnificent edifice, exhibiting specimens of architecture peculiar to different periods, the earliest of which reach to the 12th century. It contains monuments of many distinguished persons, among whom are Henry IV. and the Black Prince. But the circumstance which extended the fame of Canterbury beyond any other, was the murder of the turbulent and vain-glorious Thomas-à-Becket. This man was palmed upon the gross superstition and credulity of the age in which he lived, as a saint, and the shrine which enclosed his ashes, became the object of pious pilgrimage. Not only did the bigoted inhabitants of England bend before his tomb, but pious votaries from all parts of Europe visited its sanctuary, till, at last, the worship of the true God was lost in this idolatrous devotion. Canterbury contains many other relics of antiquity. The remains of St. Augustine's Abbey, once a splendid edifice, are still to be seen, near the Cathedral, as well as those of several other religious houses, and of the ancient castle. The mouldering fragments of the walls and gates, are also monuments of the importance of the place in ages long since past. Eleven of its churches still remain in the city, and three in the suburbs. The fanatical persecutions in the Low Countries, together with the revocation of the edict of Nantes, introduced the manufacture of silks into Canterbury, and revived its prosperity, which had greatly declined after the abolition of the religious houses. In more recent times, various improvements have arisen from its being made a military station, and from the influx of strangers occasioned by an enlarged intercourse with the continent. Many of its buildings, however, are old, and the whole city has the air of antiquity impressed on its general appearance. The population, at the time of the last enumeration, was 10,200.

GREENWICH is situated on the south margin of the Thames, about five miles below London. As the birth-place and residence of sovereignty, the authorized seat of science, the noble retreat of disabled seamen, who have contributed to the glory of England, and the asylum for the orphans of those who have fallen in her cause, it presents varied and impressive claims to notice. Humphrey, Duke of Gloucester, first erected a palace at Greenwich, and enclosed the adjacent park, after which it became a favourite residence of several of the British monarchs. Henry VIII., and his two daughters, Mary and Elizabeth, were born here. Charles

II. ordered a magnificent structure, as a royal residence, to be erected on the site of the old palace, which had fallen into decay, during the turbulent part of that and the preceding reign; but only one wing of the intended building was completed, in which that monarch occasionally resided. When Sir Christopher Wren, in the reign of William III., was consulted respecting the establishment of an asylum for the disabled seamen of the British Navy, he recommended that this unfinished palace should be enlarged and fitted for the purpose. The plan was immediately adopted, and the structure completed, nearly as it now stands. In describing this noble building—this princely specimen of magnificent architecture—it will be sufficient to say, that the edifice and the object to which it is applied, are equally worthy of admiration. Soon after the mutiny at the Nore, the plan of an asylum for the sons of those who should fall in the naval service of their country, was approved of by his Majesty, and a suitable building erected for that purpose, in the vicinity of the Royal Hospital.—The Royal Observatory, founded by Charles II., on the site of an old tower built by the Duke of Gloucester, stands on an eminence in Greenwich Park, and commands extensive views of the river, the metropolis, and the surrounding country. The science and skill displayed in conducting this Observatory, have stamped its reputation in every country of Europe, and caused its meridian to be adopted as the *first meridian* in all British Maps, Charts, and Nautical Reckonings. Greenwich and its environs contain many good houses; and the population, in 1811, was 16,947.

ST. ALBAN'S, situated in the south-western part of Hertfordshire, was the ancient VERULAM of the Romans; and, though now containing little remarkable in itself, deserves notice from its connexion with several prominent events in English history. Its present name was derived from the magnificent monastery, founded by Offa, in the 8th century, who was reputed to be the first British Martyr, in the reign of Dioclesian. One of its three parish churches is a spacious structure, exhibiting some good specimens of ancient architecture, and containing numerous monuments and inscriptions. Among other distinguished persons who lie entombed there, is Humphrey, Duke of Gloucester, the youngest son of Henry IV. The celebrated, but unfortunate Lord Bacon, who derived his title from St. Alban's, was interred in St. Michael's church, where a black marble statue of him has been erected. It was in the vicinity of St. Alban's that Cæsar defeated Cassibelanus; and there too, Boadicea, the heroic Queen of the Iceni, destroyed 70,000 Romans and Britons, who had acknowledged their authority. Two engagements took place near the ancient Verulam, between the houses of York and Lancaster. The last of these was in 1461, when Queen Margaret was with the army, and rescued her husband from captivity. The population is 3653.

CHESTER, the capital of Cheshire, is an ancient city, of a peculiar construction. The principal streets are cut the depth of one story, out of the rock on which the city stands, and the houses have a kind of portico in front, forming a sheltered walk for passengers. Beneath these porticos, and level with the streets, are the shops and warehouses. The four principal streets are in the direction of the four cardinal points, and intersect each other in the centre of the city. The ancient walls are kept up as a promenade for the inhabitants, and afford a most agreeable diversity of prospect. Their circuit is nearly two miles, and their breadth sufficient for twelve persons to walk abreast. The cathedral is an ancient and heavy pile, having a dilapidated appearance, from the friable nature of the stone of which it is constructed. One of the eight parish churches is said to have been built by king Ethelred, in 689. A County Gaol, and Courts of Justice, have been erected where a part of the old castle stood, on a plan at once magnificent and convenient. Chester has a small share of foreign commerce, and a good internal trade with

North Wales, while its two annual fairs are particularly noted for the sale of Irish linens. It suffered greatly in the royal cause, during a protracted siege by the Parliamentary troops, in 1645 and 1646. The population, in 1811, was 16,140.

The city of DURHAM is built on a rocky eminence, almost surrounded by the river Wear. The slopes from the town to the banks of the river, are, in some places, ornamented with hanging gardens and shrubberies, but in others they are stony and steep. The centre of the hill is occupied by the ancient castle, and the large and magnificent cathedral. The prevailing architecture of the latter, is of the early Norman style, intermixed with specimens of subsequent periods. The Bishop's See, not only possesses peculiar civil privileges, but is one of the richest in the kingdom. The castle has been converted into an episcopal residence, and is a good specimen of the Anglo Norman architecture. It was erected by William the Conqueror. The general appearance of the city is ancient, and the population, at the last enumeration, was 6760.

COLCHESTER, the ancient *Camulodunum*, has been an important place both in the British and Roman periods of our history. It is principally situated on the summit and northern aspect of a fine eminence, in the north-eastern part of Essex, rising from the river Coln, which is navigable to the eastern part of the town. Colchester and its suburbs include twelve parishes, eight of which are within the walls, but some of the churches have been destroyed. The remainder, with the ruins of the Castle, St. John's Abbey, St. Botolph's Priory, and the Moat-hall, are the chief of the ancient public buildings. More Roman antiquities have been found in Colchester and its vicinity than in any other place in England. Many refugees from the Low Countries settled in Colchester, into which they introduced the manufacture of baize and other articles, but this has declined; and a great part of its trade now rises from its *oyster fishery*, for which it has long been noted. Colchester suffered greatly during the civil wars; but is still a handsome town, with a population, when last enumerated, of 12,544 inhabitants.

CAERMARTHEN, the capital of South Wales, is situated a few miles from the sea, on the banks of the Towy, which is there crossed by a stone bridge. The town is extensive, and many of the streets are steep and irregular; but the houses are esteemed the best built in South Wales, except the modern erections at Swansea. Caermarthen was anciently defended by a castle, some remains of which still exist. Vessels of 300 tons come up to the quay with the tide, by which it exports the production of the iron and tin works in its vicinity, and receives, in return, supplies of foreign articles for the adjacent parts of the country. Population, at the last census, was 7275.

CAERNARVON must also be noticed as the capital of North Wales, situated on the strait of Menai. Its harbour is good, but difficult of access. The town is in the form of a square, enclosed on three sides by an embattled stone wall. Caernarvon was originally built by Edward I., whose son, Edward II., first Prince of Wales, was born in its noble castle, which defends the town on the south. Both hot and cold baths were erected here by the late Earl of Uxbridge, which attract numerous visitors during the bathing season. A commercial intercourse is maintained by Caernarvon with London, Bristol, Liverpool, and Ireland. Copper ore and slates in large quantities, with flannels and stockings, are its chief exports. Its principal imports are Irish cloth, fine wool, hides, tallow, and colonial produce. The population, in 1811, was 3696.

CHAPTER IV.

Manufactures—Fisheries—Commerce and Shipping.

ENGLAND did not apply the whole of her energies to MANUFACTURES and COMMERCE, till a comparatively recent period, but the moment she made those pursuits her paramount consideration, pre-eminent success awaited her efforts. The genius of her people, the favourable localities of her insular situation, and the abundance of her capital, all conspire to elevate her, as a manufacturing and commercial nation, not only above every modern rival, but above every ancient state, of which history has transmitted any record. The different branches of her industry are not less varied in their objects, than important in their consequences, while their immediate connexion with the prosperity of the empire, renders them interesting topics of inquiry. Our observations, however, must be confined to a brief sketch of the progressive rise, and actual state, of each.

An extensive line of coast is obviously advantageous to the welfare of a *maritime* power, a title which the comprehensive genius of Alfred conferred upon Britain, long before she had any claim to that of a manufacturing people. In the early periods of British history, her native products, especially wool and metals, were exported, and the manufactured articles returned. Britain was, therefore, indebted to foreigners for many of the conveniences of life, and large sums were annually paid for the exercise of that ingenuity in others, which then lay dormant in herself. The Flemings were the chief purchasers of English wool, which they received in exchange for cloth they had manufactured from the same material. England continued to labour under these disadvantages till the reign of Edward III., who, being no less attentive to the industry, than to the military glory, of the country, invited manufacturers from the Netherlands to settle in his dominions, that his own subjects might learn the process of converting their raw materials into articles of daily use. The wisdom of this policy soon manifested itself in the diminished expenditure of the country for these necessary supplies. It was not, however, till the relentless hand of religious tyranny had driven many ingenious and wealthy artizans to the protecting shores of England, that her manufactures became an object of national importance. The persecution of the Protestants in the Low Countries, and especially the revocation of the edict of Nantes, caused nearly a million of French artizans to seek an asylum where they could enjoy the free exercise of their religion. Many of these took refuge in England, and their skill, ingenuity, and opulence, contributed to raise our manufactures to their present unrivalled perfection.

Various other circumstances also concurred to accelerate the rapid progress of the national industry in this respect, among which may be enumerated the protection of the legislature, the duties imposed on foreign articles, and the drawbacks allowed on our own. The civil and religious freedom of the constitution, which gives unlimited scope to enterprise, and which is so essential to a flourishing and permanent state of enlightened exertion, has likewise had a powerful effect; while

The use of machinery, the employment of large capitals, and the division of labour, which has been carried further in England than in other countries, have enabled the manufacturers to maintain a competition in foreign markets, from which they would otherwise have been excluded. Other causes have doubtless operated, but they are either more partial in their nature, or more limited in their influence, than those specified.

The WOOLLEN manufacture was introduced into Britain by the Romans, who wove sufficient cloth at Winchester for the consumption of the army which they maintained in this country. Little progress, however, was made in this manufacture, from the period when the Roman troops were withdrawn till the reign of Edward III. when it was more extensively established, and has ever since continued to flourish.

All the articles made of wool are usually included under the head of the woollen manufacture, which, therefore, embraces both woollen cloth and worsted goods. Stockings and hosiery, though partly composed of wool, are considered as a distinct branch.

The counties in which woollen cloth is most extensively made, are Wilts, Somerset, Gloucester, Devon, part of Dorset, and the West Riding of Yorkshire. Broad-cloths of the finest fabric are produced in the West of England; but the manufactures of Yorkshire almost equal them in quality, and exceed them in quantity, for they produce, annually, about ten millions of yards of broad-cloth, and five millions of narrow. Baize, blankets, and flannels, are made in both districts. Carpets are also manufactured at various places, but those of Kidderminster, and the adjacent towns, are most esteemed. Other kinds of coarse woollens, chiefly for foreign markets, are principally made in Devonshire, Dorsetshire, and some adjacent western counties. Denbighshire, Merionethshire, and Montgomeryshire, in North Wales, are also engaged in the cloth manufacture, and their chief products are coarse narrow-cloths, and flannels, which are the staple manufactures of the county.—Worsted goods are chiefly fabricated in Norfolk, the materials being prepared in the county, and the weaving and finishing completed in the city.

The annual value of the various articles included under this manufacture, and the number of people employed, have been thus estimated :

The total value of the manufactured article	£18,000,000
The value of the raw material employed	6,000,000
The interest on capital employed, and the profit of the manufacturer	2,400,000
The wages of the manufacturers of all kinds	9,600,000
And the number of people employed, about.....	500,000

The following remarkable fact is interesting to those engaged in the manufacture of woollen cloths. Painswick, Nailsworth and its vicinity, have from time immemorial been celebrated for the finest black dyeing, which excels in colour all others: the western parts of Wiltshire are also remarkable for fine scarlet dyeing: in both cases it is attributed to the chemical property of the water; and it is confidently asserted, that were the same ingredients used in Wilts, as in Gloucestershire, for dyeing black, and the same ingredients used in Gloucestershire, as in Wilts, for dyeing scarlet, they would fail to produce the same effect.

The COTTON manufacture of England affords an unparalleled instance of rapid increase. Unknown till the middle of the 17th century, and little more than one hundredth part of its present extent at the beginning of the 18th, it is now unrivalled, both in the magnitude and perfection of its operations, in any other country on the globe. About the year 1780, the invention of machinery, and with it the cotton trade, began to make a more vigorous progress. Six years afterwards, the

quantity of cotton wool employed was about 19 millions of pounds. In the following year it amounted to 22 millions. The six years from 1805 to 1810 inclusive, give an average import of 77,628,727 lbs : a small part of it, however, is always exported. In 1817, the requisite supply was stated at 92 millions of pounds.

Manchester is the centre of the cotton district, which now extends to Bolton, Blackburn, Wigan, Preston, and even as far as Carlisle. Stockport, Ashton, Derby, and other places, also participate in this trade, which is carried on upon a still larger scale in the West Riding of Yorkshire, where it is intermixed with the original and staple manufacture of that county. Different branches of this trade are prosecuted in particular places, as muslins at Bolton ; these, with fine calicoes, at Stockport and Blackburn ; cotton spinning at Manchester and its vicinity, and calico printing at Carlisle, as well as in the neighbourhood of London. In many districts, the proportion of the population employed in the cotton trade is from one to two-thirds, and in some places greater.

The following is considered as a near approximation to the actual state of this trade in England and Wales for the last few years.

Total value of the manufactured article	£15,000,000
Value of the raw material employed	7,000,000
Interest on capital, and profit of manufacturers	1,600,000
The wages of the manufacturers of all kinds	6,400,000
The total number of men, women, and children employed, about	427,000

The branch of British Manufactures for which, perhaps, England is most extensively celebrated, is **HARDWARE**. In the preceding account of the mineral products of England and Wales, we specified the districts where iron is chiefly found ; and in 1806, these contained 1100 works, and 144 furnaces in blast, yielding an annual produce of 227,166 tons of pig-iron. About 95,000 tons of this are subsequently rendered malleable, and fit for the manufacture of various articles of utility. The capital invested in the raw material alone, is estimated at five millions sterling ; and the number of men employed is about 200,000, independently of all the processes to which it is afterwards submitted.

The principal metallic manufactories are at Birmingham, Sheffield, and the adjacent districts, with the exception of London, where many of the finer and more valuable works are executed. This branch of national industry embraces not only what is properly called hardware, but every article of utility and amusement, from the ponderous steam-engine, the most stupendous machine that ever lent its aid to man, to the most frivolous toy. There is scarcely a people, however remote, among whom some production emanating from the skill and ingenuity of Birmingham, the great emporium of this manufacture, may not be found. The population of Birmingham, and of the contiguous manufacturing district, extending about fifteen miles each way, is estimated at 400,000 persons, nearly one-fourth of whom are employed in procuring coals, preparing the iron at the forges, and other large works. The brass foundery, which is chiefly confined to the town, is supposed to occupy nearly 10,000 people ; the button trade from 7000 to 10,000 ; brace-making 1000 ; the Jewelry and gilding business, from 6000 to 7000. But the greatest number are engaged in the burnishing line, which employs nearly 20,000. The aggregate annual value of the various articles, manufactured in the town of Birmingham, has been stated at £2,000,000. Making of nails is a very large concern carried on in that neighbourhood, and is supposed to occupy 30,000 men, women, and children. Locks, and the iron work belonging to the saddlery business, are principally executed at Wolverhampton, Walsal, and the vicinity of these towns.

Sheffield not only participates in the hardware trade of Birmingham, but has several distinct branches in which its workmen excel, especially those of cutlery and plated goods. Very little copper or brass is used in this manufacture, and the articles made are generally more adapted for utility than ornament. Toys are altogether excluded. Sheffield is distinguished for the manufacture of files, and the process of converting iron into steel. These various branches of industry are not confined to the town, but spread over the district called Hallamshire, extending six or seven miles west of Sheffield. All the manufacturing concerns are under the superintendence of a Corporation, denominated The Company of Cutlers of Hallamshire. The population of this district is about 60,000, nearly one-third of whom are engaged in the different branches of the manufacture, and which occupies about twice as many men as women. The total value of the articles is estimated at £1,200,000, about half of which is required for home consumption. The remainder is exported to America and the continent.

The average value of all the articles annually made with iron, in England and Wales, is about 10 millions, and the number of people they employ amounts to nearly 200,000. Between three and four millions of this amount are exported. The whole value of the various articles made of brass and copper, is nearly three millions, about one-sixth of which is sent to foreign countries. The number of people employed in their fabrication is 50,000. The steel, plated goods, and hardware, including the toy-trade, has been stated at £4,000,000; and the number of people employed, at 70,000. Hence, the total value of the whole of the metallic articles, annually produced in England and Wales, is about 17 millions; and the number of people employed 320,000.

Clock and watch movements, with the tools by which they are executed, are extensively made in several parts of the kingdom, particularly at London, Coventry, Derby, Prescott, and Liverpool. The number of clock and watch-makers in London is very great. It is supposed the parish of Clerkenwell alone contains 7000, and the whole value of the watches and chronometers, made in the metropolis and its vicinity, is estimated at a million sterling. Various other metallic articles, both useful and ornamental, have been brought to great perfection in London, among which many are worked in gold, silver, jewelry, cutlery and glass. Astronomical, mathematical, optical, and philosophical instruments are exclusively of metropolitan manufacture, and in their elegance and accuracy are unrivalled. Gold-beaters, and some other trades, are likewise confined to the capital.

Silk has long been enumerated among the manufactures of this country, though less flourishing and important than those already described. Those of woollen and metal are doubly valuable, the raw material being chiefly native produce; but those of cotton and silk depend upon climate, particularly cotton, which is supplied by our own colonies. During the 17th century, many regulations were made by Government, and much exertion employed to improve and extend the manufacture of silk, which was also greatly promoted by the French refugees, who settled in Canterbury, London, and some other places. Spitalfields, in the north-eastern quarter of the metropolis, is the principal place where silk weaving constitutes the chief employment of the population, and where it occupies about 30,000 people. Derby, Coventry, Macclesfield, Leek, and other places, now participate in this manufacture. The value of the whole produce has been stated at £4,200,000; and the number of persons employed, comprising a great proportion of women and children, is about 70,000.

Linen was early established as one of the manufactures of England. At present it is not extensive, though in the year 1786, the quantity made was estimated at 30 millions of yards, and its value at £1,600,000. Both this and the silk trade

have suffered greatly from the rivalry of cotton. There is a deficiency of documents by which to estimate the amount of the linen now annually made, but the quantities imported from Ireland and other countries, to supply the regular consumption, evince the low state of the home manufacture. The average quantity brought from Ireland, and retained for domestic use, is about 33 millions of yards; with about five millions more from Russia, Germany, and other places. One of the principal branches of our manufacture from flax and hemp is sail-cloth; but this has necessarily diminished since the peace.

The *Stocking* manufacture is chiefly carried on in the counties of Nottingham, Leicester, and Derby, the materials being either worsted, cotton, or silk. It is most extensive in the first two counties. In Leicestershire alone, it has been computed that more than 20,000 are employed in producing hosiery to the value of £1,500,000. The value of the goods made in Nottinghamshire, which are chiefly silk and cotton, is about equal to that of Leicestershire; but in Derbyshire it is comparatively small.

Leather, and the various articles in which it is employed, are manufactured to a great extent in this country. In addition to the hides supplied from domestic sources, vast numbers are imported from Ireland, the Continent, and America. Tanneries are common in all parts of the kingdom; but one of the most extensive, and to which the manufacture of Morocco leather is almost exclusively confined, is at Bermondsey, in the vicinity of London. The goat skins of which this leather is made, are chiefly imported from Mogador, a port in the empire of Morocco, those brought from Germany, and other places, being of an inferior quality. The value of the various articles, annually made of leather, as shoes, gloves, harness, saddlery, &c., has been estimated at nearly £10,000,000; and the number of people employed in the different operations, at 227,000.

Since the middle of the last century, the manufacture of *Earthenware* and *Porcelain* has been advanced to such perfection as to become an object of national importance. The principal counties where this is carried on are Staffordshire and Worcestershire. The clay used in these districts is chiefly brought from the Isle of Purbeck, and other places on the coasts of Dorset and Devon. Several thousand tons of flint are also sent from the chalk-pits of Kent, with other materials from Cornwall and various parts of the kingdom. The villages in the pottery district of Staffordshire, commence near the borders of Cheshire, and extend seven or eight miles. The principal ones are Burslem and Etruria, the latter being the property of Mr. Wedgwood, to whose father the Staffordshire potteries are so much indebted for their celebrity. Nearly 40,000 tons of shipping are employed in conveying the raw materials for this manufacture to Liverpool, and about 30,000 in exporting the finished articles, or in conveying them coastwise to our own ports. Porcelain of superior quality is also made at Worcester, Derby, Colebrook-dale, in Shropshire, and Swansea. The unrivalled elegance it has now attained at these places, especially the first, has rendered it an object of general admiration. The recent discovery of excellent *Cobalt*, in the mines of Cornwall, upon which some of the richest colours depend, promises to be of great importance to those manufactures. Porcelain clay has also been discovered lately on Lord Grosvenor's estate, in Flintshire. The annual value of the whole of the British porcelain and earthenware, is about two millions; and the number of people employed not less than 40,000.

All kinds of *Glass* are extensively made in various parts of the kingdom. The superb English plates and mirrors now rival those imported from the continent, while cut-glass has been produced of such brilliancy and beauty, as to excite at once astonishment and admiration. The whole annual value of the manufacture

has been stated at one million; and the number of people it employs is about 40,000.

Much of the *Paper* used in this country, was long imported from the continent, but such has been the progressive improvement in its manufacture, that we now not only produce a sufficient quantity for home consumption, but a large surplus for exportation. This branch of industry is widely diffused over the kingdom, though it is most extensively prosecuted within 30 or 40 miles of the metropolis. The whole annual value is about a million sterling; and the number of men, women, and children employed, nearly 30,000.

Besides the articles already mentioned, various others, equally perfect in their execution, but more confined in their demand, are daily produced. Great improvements have been made in the construction of carriages, which form an article of export to a large amount. Hats are made in all parts of England; sugar refineries, breweries, soaperies, vitriol, copperas, white lead, and salt-works, roperies, and various others, are spread over the whole country, while the beautiful prints, which adorn the mansions of the opulent, are produced exclusively in London, and exported to all parts. Gunpowder manufactories, distilleries, with works for making varnish, oil-mills, tin-works, &c. also contribute to the sum of British industry, and many of them are essential to the perfection of our other manufactures. The whole number of people employed, including men, women, and children, in these various works throughout England and Wales, is about two millions, and the value of the annual produce of their labours about 80 millions sterling.

The brief sketch which we have thus given of this interesting subject, will enable the reader to perceive "the wonderful proofs which these manufactures afford, of the skill, industry, enterprize, and wealth of the inhabitants of this country. In ancient, or in modern times, there is no parallel to what England exhibits at this moment; and such is the state of apparent perfection to which most of her manufactures have reached,—so completely subservient to their will, have her inhabitants brought the most refractory and stupendous powers of nature, such a practical demonstration have they exhibited of Bacon's maxim, that knowledge is power; that did we not compare what our manufactures are now, with what they were half a century ago,—did we not perceive, even while we are pronouncing them perfect, new improvements taking place, by means of which, either their quality is bettered, or human labour saved; and did we not know that our countrymen, in their capital, their industry, their skill and experience, possess almost inexhaustible sources of improvement, we should be inclined to pronounce, that the manufactures of England had reached that point of perfection beyond which they could not advance."

The FISHERIES in which England is annually engaged, are not only an extensive source of industry, but supply many articles of commercial importance. It is to be regretted, however, that this most important object of national enterprize, is comparatively neglected, and we suffer our more sagacious neighbours to transport from our coasts, that wealth which nature herself seems to have spread for our benefit. Of late, indeed, the attention not only of patriotic individuals, but of the legislature, has been directed to this subject; and it may be hoped the time is not far distant, when we shall employ, to our own advantage, the riches which are wafted round our coasts with every tide. At present, the chief native fisheries which occupy our notice, are those of the herring and the pilchard, to which may be added those of Newfoundland, Greenland, and the South Sea. The principal stations for the Herring fishery are off the coasts of Norfolk and Suffolk, with that of Cumberland, in the Irish sea. The markets to which the cured fish are generally exported are the catholic countries of the south of Europe. The

Pilchard fishery is carried on along the coasts of Dorsetshire, Devonshire, and especially Cornwall. About 30,000 people are employed in all its branches, during the season, independently of the seamen engaged in transporting them to foreign markets.

Extensive banks, off the shores of *Newfoundland*, have long yielded inexhaustible stores of fish for all the nations of Europe, and England has shared largely in conveying the supply. This fishery is a source of great employment, and supplies us with a valuable article of export to the southern countries of Europe; but as the demand during the late war was diminished, the Newfoundland fishery also declined, though it has revived since the return of peace. The average tonnage of the vessels engaged in this fishery exceeded 34,000 tons; and the number of men employed amounted to 2600.

England has now been engaged in the *Greenland* fishery for more than 200 years, though great fluctuations have been experienced during that period. In 1788 the number of vessels was about 200, and the men by whom they were navigated amounted to nearly 10,000. Eighty or 90 vessels now annually visit those northern seas, the united burden of which is about 30,000 tons, and the sailors employed nearly 3000. The *South-Sea* fishery also employs about 35 or 40 vessels, and from 800 to 1000 men. The annual average amount of the fisheries was stated by *Mr. Irving*, the Inspector General of the Exports and Imports, before a Committee of the House of Commons, in 1810, to be £1,253,000.

The COMMERCE of England, which first began to rise into importance in the reign of Elizabeth, now surpasses all that has been recorded in the annals of mankind. Every coast is visited by her ships, every nation is tributary to her trade, and every region transmits the choicest of its productions to her ports. The subject is naturally divided into two distinct branches, *domestic* and *foreign*, the first embracing the inland and coasting trade, and the second, the general intercourse with foreign nations. Each shall receive a brief description.

An adequate idea may be formed of the extent and importance of our *internal Commerce*, by simply recalling to mind, the numberless facilities which exist for carrying it on. The means of an expeditious and safe transit for commodities, from one part of a kingdom to another, are the necessary result of an urgent demand for such means; and, when they are adopted, they tend, by a natural reaction, to multiply their own use. Applying this criterion to England, we shall find its accuracy verified by facts. The state of our public roads, in all parts, the vast number of carriages constantly moving to and fro, and the rapidity with which many of them travel, all powerfully impress the mind with an enlarged conception of the intercourse and traffic which give them occupation. This impression is still heightened by the numerous canals which intersect the country, and the thousands of vessels that are perpetually employed in transporting the productions of its soil, the produce of its manufactures, and the commodities of its commerce, in all directions. So great is the traffic on some of these canals, that in 1817, the united burden of the vessels on the Grand Junction alone, amounted to 12,770 tons. It is, perhaps, impossible to form an accurate estimate of the whole amount of the internal commerce of the kingdom, but if the annual average expense of each person be taken at the low sum of £15, the whole amount for the 10 millions of inhabitants, will be £150,000,000.

The *Coasting Trade* of England is very extensive, and that which is connected with the conveyance of coals, is one of its principal branches. On the east side of the island alone, it employs about 1500 vessels, from 150 to 450 tons each, and navigated by about 12,000 men and boys. In a Report of the Select Committee of the House of Commons, relative to the improvement of the port of London, it is stated that the number of vessels which entered the Thames, from the other British

ports, including their repeated voyages during the year, amounted in 1797, to 10,781; and their whole burden to 1,360,823 tons. In 1798, the number of ships was 10,133, and their burden 1,250,449 tons. About one-tenth of this amount must be deducted for Scotland, and the average for the two years will then be 9410 for England and Wales.

The *Foreign Commerce* of Britain has attained such a colossal magnitude as to embrace every region of the globe, and include every commodity capable of being transported from one clime to another. It differs from that of other nations in the nature of its articles, while it surpasses them in the extent to which it is carried. They, in general, export only the products of their soil, or those which are manufactured by the industry of their inhabitants; but the exports of Britain include the productions of regions the most remote, and of people the most dissimilar. We shall present the clearest idea of this interesting subject, by stating the relative value of the merchandise exchanged, and the number of ships employed in its transfer.

Commercial intercourse is subject to great fluctuation, and mercantile transactions frequently prosper or decline, from causes over which the wisest councils can exercise no controul. The following statement shews the official value of the English Imports and Exports, as they related to the other countries of Europe, in 1805. The official value, seldom exceeds *five-eighths* of the *real* value. The imports are generally entered at the same rate, and sometimes less.

<i>Countries.</i>	<i>Imports.</i>	<i>Exports.</i>
Denmark and Norway	£1,071,579	£5,172,060
Russia	2,527,078	1,616,475
Sweden	269,161	159,597
Poland	429,450	80,500
Prussia	1,790,781	5,520,077
Germany	319,444	2,180,784
Holland	726,264	418,801
Flanders.....	3,070	23,343
France	469,820	551
Portugal and Maderia	936,500	1,495,814
Spain and Canaries	916,165	111,380
Straits and Gibraltar.....	42,909	183,823
Italy	393,517	507,535
Malta.....	9,304	127,514
Turkey	103,590	135,410
Ireland	3,010,609	3,758,973
Isle of Man	21,697	62,431
Guernsey, Jersey, &c.....	81,241	198,324
Greenland	261,086	952
Total of Europe	£13,383,275	Total £21,784,345

According to the Custom-house statement, in 1809, the imports from the whole of Europe, amounted to £9,551,857, official value; but the real value, was £19,821,601. The exports for the same year also amounted to £23,722,615 official value; while the real value was £27,190,337.

The principal imports from *Asia*, which are chiefly brought from India, China, and Persia, are raw silk, tea, sugar, indigo, cloves, nutmegs, cinnamon, and other spices; muslins, nankeens, opium, quicksilver, gums, drugs, rice, saltpetre, diamonds, pearls, &c. The chief exports are tin, lead, copper, bullion, woollen goods, hardware, hats, millinery, clocks, watches, carriages, and cabinet and upholstery goods. The official value of the imports from Asia, and the exports from the same continent, at various periods, were as follow: viz.

	<i>Imports.</i>	<i>Exports.</i>
In the year 1805.....	£6,072,160	1,638,600
Average of 3 years ending 1807		3,308,991
———— 4 years ending 1811		3,222,575

Great Britain imports from the *African* continent, chiefly gold, ivory, coffee, ostrich feathers, grains of Guinea and of Paradise, gum, hides, palm oil, Guinea pepper, rice, skins, wax, ornamental and dye-woods, cotton, wool, and various other articles. The exports of native produce and manufactures to the coast of Africa, generally consist of all kinds of beads, cotton goods, iron, linens, woollens, salt, with colonial and foreign articles, including bugles, cowries, India piece-goods, spirits, tobacco, &c. The following shows the value of British and Irish produce and manufactures exported from Great Britain to the coast of Africa, viz.

<i>Species of Merchandise</i>	<i>Periods.</i>		
	1812.	1814.	1815.
Cotton Manufactures, (<i>Declared value</i>)	£46,458	£27,063	£14,684
Gems..... do	5,855	3,046	3,318
Gunpowder..... do	19,550	4,522	5,762
Hardware and Cutlery..... do	1,059	2,458	3,326
Iron, wrought and unwrought... do	6,023	8,973	7,947
Linen Manufactures..... do	1,566	1,828	2,329
Salt..... do	2,015	3,518	2,130
Woollen goods..... do	7,653	9,581	3,702
All other articles..... do	33,541	33,895	46,269
Total value	£123,720	£94,884	£89,467

From *North America*, the principal IMPORTS are flour, provisions, masts, timber, cotton-wool, rice, tobacco, pitch, tar, pearl and potash, indigo, furs, &c. From *South America*, cotton-wool, skins, hides, cochineal, sugar, drugs, indigo, logwood, brazil-wood, mahogany, and other woods. The *West Indies* yield sugar, rum, coffee, cotton, pepper, ginger, indigo, drugs, &c.—The chief EXPORTS to North America, are cotton and woollen goods, hardware, nails, earthenware, locks, hats, linen, leather, shoes, and paper. To South America, cotton, silk, and woollen goods, linen, leather, hats, hardware, shoes, and earthenware. To the West Indies, provisions, cotton, silk, and woollen manufactures, hardware, earthenware, glass, hats, shoes, ready-made clothes, and dried fish. The official value of the Imports and Exports at various periods was as follows : viz.

	<i>Imports.</i>	<i>Exports.</i>
America and West Indies 1805	£9,615,161	12,165,917
West Indies 1816	7,428,617	4,559,665

From each of these sums about $\frac{1}{4}$ th should be deducted for the exports and imports of Scotland; the remainder will be the proportion for England and Wales.

The following statement gives a general view of the imports and exports of Great Britain, during the last three years, distinguishing between British produce and manufactures, and foreign merchandise. The official reports from which these statements are derived, are made up to the 5th of January in each year, so that the imports and exports for 1817, include those from the 5th of January 1816, to the same day in 1817; and so for all the others.

ACCOUNT of the *Imports* and *Exports* of Great Britain, for the three years ending 5th January 1817, 1818, and 1819, extracted from the Official Report, ordered to be printed by the House of Commons, 2d April, 1819.

IMPORTS.

EXPORTS.

Yrs. ending 5th Jan.	<i>Official Value.</i>			<i>At the official rate of Valuation.</i>						<i>Total Exports</i>			<i>British Pro. & Manu. according to the real val.</i>		
	£	s.	d.	<i>Produce and Manufac. of the Un. kingdom.</i>			<i>Foreign and colonial Merchandise.</i>			£	s.	d.	£	s.	d.
1817	30,105,566	1	9	36,697,610	5	8	14,545,964	2	3	51,243,574	7	11	42,955,256	3	8
1818	33,965,232	6	0	41,588,585	11	11	11,534,616	12	11	53,123,202	4	10	43,626,253	14	2
1819	40,175,634	9	6	44,564,044	14	10	12,287,274	15	0	56,851,319	9	10	48,903,760	16	1

In carrying on this extensive commerce, the following number of vessels, according to the same official documents, was employed.

Ships from all parts of the world, including their repeated voyages, with the amount of their tonnage, and the number of sailors employed to navigate them.

ENTERED INWARDS.

Years ending 5th Jan.	<i>British and Irish Vessels.</i>			<i>Foreign Vessels.</i>			<i>Total number of Vessels.</i>		
	Vessels.	Tons.	Men.	Vessels.	Tons.	Men.	Vessels.	Tons.	Men.
1817	16,754	1,966,890	119,779	2,825	317,577	22,253	19,579	2,284,476	142,032
1818	18,707	2,240,675	131,901	3,163	401,792	24,745	21,870	2,642,467	156,646
1819	20,401	2,470,779	143,800	5,898	704,511	40,690	26,299	3,162,290	184,490

CLEARED OUTWARDS.

5th Jan. 1817	17,383	1,987,794	123,733	2,260	329,942	20,156	19,643	2,317,736	143,889
1818	19,754	2,249,206	136,947	2,674	396,164	22,981	22,428	2,645,370	159,928
1819	19,791	2,401,067	142,476	5,063	671,342	36,764	24,854	3,072,409	179,240

Nearly *two-thirds* of this immense traffic is carried on in London, and about one-sixth of the whole shipping of the kingdom belongs to that port.

The following statements, extracted from the Custom-house Report, ordered to be printed by the House of Commons, on the 2d of April, 1819, shows the amount of the shipping belonging to the British empire, with the exception of Scotland and Ireland (for which see those countries respectively) with their tonnage, and the number of men and boys usually employed in navigating them. On the 30th of September of the three following years, these were,

	1816			1817			1818		
	Vessels.	Tons.	Men.	Vessels.	Tons.	Men.	Vessels.	Tons.	Men.
England.....	17,442	2,152,968	134,060	17,082	2,077,338	127,749	17,164	2,080,416	129,389
Isle of Guernsey .	65	7,237	494	63	6,758	446	65	7,776	510
— Jersey ...	77	7,992	636	79	8,167	589	85	8,967	636
— Man	369	9,335	2,315	343	8,764	2,155	348	8,896	2,449
British Plantations	3,775	279,643	16,859	3,571	243,632	15,471	3,483	221,860	15,121
Total	21,728	2,457,175	154,364	21,138	544,659	146,410	21,145	2,327,915	148,105

In the three following years, each ending on the 5th of January the number of vessels built and registered in the several ports of England, its Islands and Plantations, according to the official statements, was the following : viz.

	1817		1818		1819	
	Vessels.	Tonnage.	Vessels.	Tonnage.	Vessels.	Tonnage.
England	618	67,083	500	63,260	573	70,542
Isle of Guernsey....	4	53	4	587	0	0
— Jersey	2	40	1	142	1	121
— Man	9	250	3	116	8	195
British Plantations..	405	32,282	316	22,321	167	10,441
Total	1,041	99,808	428	86,426	749	81,29

CHAPTER V.

*Government and Constitution—Laws and Jurisprudence—Army—Navy—Revenue
—Political Importance and Relations.*

THE GOVERNMENT of Great Britain is a *limited* monarchy, in which the power of the Sovereign is counterbalanced by the aristocratical and democratical branches of the constitution, as existing in the two Houses of Parliament. It is in the equilibrium preserved by these, and the inherent power of self renovation they possess, with their consequent capability of adapting themselves to existing circumstances, that the excellence of the British Constitution consists. Experience having proved its general tendency to promote that social confidence, that security of persons and of property, and that individual as well as political liberty, upon which all the comforts and advantages of society depend, it has not only become the admiration of other countries, but the standard by which they have attempted to re-model their own forms of government. The freedom which the British Constitution secures, is strongly evinced by the circumstance, that an individual may raise himself, by his personal merit alone, from the lowest station in life, to the highest honours of the state.

The supreme legislative power of the British Constitution, resides in the King, Lords, and Commons. United, they can do any thing that is not subversive of the great ends for which they exist. Separated, they are weak and powerless. The executive authority is vested in the king and the officers of his appointment. By this distinction, all the advantages of the monarchical, the aristocratical, and the democratical, forms of government, are secured without any of their separate evils. As the British Constitution, therefore, consists of two distinct parts, the *legislative* and the *executive*, each shall be separately explained.

The power and jurisdiction of PARLIAMENT, as composed of King, Lords, and Commons, are so transcendant and absolute, that they cannot be confined, either with respect to causes or persons, within any bounds but the limits of the empire. The government of this country has always been, in some degree, under the control of general councils; for not only among our German ancestors, but among the ancient Britons, Wittenagemots, or councils of wise men, were assembled on particular occasions, to deliberate on public affairs. The fundamental constitution of the Parliament, as it now exists, however, was established by the *Great Charter*, which the patriotic Barons wrested from their reluctant monarch, in 1225, and in which he “promised to summon all Archbishops, Bishops, Lords, and great Barons personally; and all other tenants in chief, by the Sheriffs and Bailiffs, within forty days, to assess aids and scutages (the pecuniary contributions of those who held lands by knights’ service, towards raising the king’s army) when necessary.” But the earliest existing writs (according to Blackstone) for summoning knights, citizens, and burgesses to Parliament, are those of 1266, the 49th of Henry III.

As the head of the nation, it is the KING's prerogative to convene, prorogue, or dissolve, the Parliament, the members of which are the guardians of the national rights ; but he cannot suspend its sessions for more than three years. The King, in his legislative capacity, also assents to, or rejects, the bills passed by the two Houses ; but he may not alter them. Without his assent no act becomes a law. As the royal prerogative enables the King to create Peers of the realm, he consequently increases the number in the Upper House at pleasure, which thus becomes a counterpoise to any undue bias that might be possessed by the Commons.

The second branch of the imperial legislature of Great Britain consists of the Lords spiritual and temporal, who assemble in one house, and vote in a common council, which is denominated the HOUSE OF LORDS, or the HOUSE OF PEERS. The Lords spiritual are the two English Archbishops, and the twenty-four Bishops, who become Lords of Parliament on their elevation to the episcopal dignity ; they also include four Irish Bishops, who succeed to that privilege by rotation of sessions. The temporal Lords, under their several titles of Duke, Marquis, Earl, Viscount, and Baron, all meet upon an equality as British Senators, in their capacity of Peers (*equals*) of the realm, or Barons of the Parliament. Some of them, however, become Senators by virtue of hereditary right, while others are created by royal authority. Those who represent the nobility of Ireland are elected to that dignity for life, but the sixteen Peers for Scotland are specially elected upon the calling together of each new Parliament. The number of English Peers is, therefore, unlimited. At present they amount to about 400. Those representing Scotland are 16, and Ireland 28.

The third branch of the legislature is the HOUSE OF COMMONS, a name given to the collective representatives of the people. These members, like the Peers, in their legislative capacity, all meet upon a perfect equality, though elected under the four denominations of Knights, Citizens, Burgesses, and Barons. The Knights are the representatives of the landed interest, and are returned by the counties. The Citizens and Burgesses are elected by the cities and boroughs ; and the Barons by the cinque-ports, who consequently represent the mercantile interest of the nation. The number of members in this House is limited to 658, of whom England returns 489, Wales 24, Scotland 45, and Ireland 100.

Either on the dissolution of Parliament, or any individual vacancy, arising from the death of a member, his acceptance of office, or his voluntary retirement from Parliament, which last is effected by his taking what is called the stewardship of the Chiltern-hundreds, writs are issued in the King's name to the Sheriffs or Bailiffs, requiring them to return representatives for the respective places to which that privilege belongs, when a new election takes place. The candidate for a seat in the House of Commons must be a native of the kingdom, more than 21 years of age, and take the oaths of allegiance, supremacy, and abjuration. To represent a county he must, in addition to the preceding qualifications, also possess a freehold or copyhold estate, yielding a clear annual income of £600 ; and each *elector*, by whom he is chosen, must have *freehold* property of at least 40 shillings a year in the county, clear of all deductions except parliamentary and parochial taxes. Beneficed Clergymen have also votes for the counties in which their livings are situated, such benefices being considered as freeholds. The citizens and burgesses must possess a clear income of £300 a year, unless the eldest sons of Peers, and persons qualified to be Knights of shires ; but in these cases the qualifications of the *electors* depend upon the various charters, customs, or tenures, of the places for which the members are chosen. Several exceptions to these general qualifications for becoming members of the House of Commons, properly arise from professions, places, pensions, &c. ; and, with a view of keeping the Parliament as free as possible from the influence of the

even a possibility of his death, that his natural dissolution is generally called his *demise*; an expression signifying merely a transfer of property."

As the *organ of the law*, the King has the appointment of all judges and magistrates, as his representatives in its execution, and in them he is considered as present in his courts; and before him, in this sense, all crimes are tried, and all suits decided. He alone has power to pardon or mitigate the penalty of any offence. Though the judges are both appointed and paid by the King, it is one of the excellent traits of the constitution, that they are rendered completely independent both of royal and all other influence, by holding their appointments, not during the royal pleasure, but as long as they act uprightly and administer justice impartially. The judges are punishable for wilful offences committed in the discharge of their duties, and are amenable in person, lands, and goods. The number of the English judges is twelve; viz. the Lords Chief Justice of the courts of King's Bench and Common Pleas; the Lord Chief Baron of the Exchequer; the three *puisné*, or inferior Judges of the two former courts, and the three *puisné* Barons of the latter.

The *Court of King's Bench* is the supreme court of common law in the kingdom; and is so called because the King used to sit there in person: it consists of a Chief Justice, and three *puisné* Judges, who are by their office, the sovereign conservators of the peace, and supreme coroners of the land. This court has a peculiar jurisdiction, not only over all capital offences, but also over other misdemeanors of a public nature, tending either to a breach of the peace, or to oppression, or faction, or any manner of mis-government. It has a discretionary power of inflicting exemplary punishment on offenders, either by fine, imprisonment, or other infamous punishment, as the nature of the crime or circumstances may require. The jurisdiction of this court is so transcendent, that it keeps all inferior jurisdictions within the bounds of their authority, and it may either remove their proceedings to be determined here, or prohibit their progress below; it superintends all civil corporations in the kingdom; commands magistrates and others to do their duty in cases where there is no specific remedy; protects the liberty of the subject, by speedy and summary interposition; takes cognizance both of criminal and civil causes; the former in what is called the crown side, or crown office, the latter on the plea side of the court. This court has cognizance on the plea side, of all actions of trespass, or other injury alleged to be committed *vi et armis* (with force and arms); of actions for forgery of deeds, maintenance, conspiracy, deceit; and actions on the case which allege any falsity or fraud. This court is likewise a court of appeal, into which may be removed, by writ of error, all determinations of the court of Common Pleas, and of all inferior courts of record in England."—*Potter's Law Dictionary*.

The *Court of Common Pleas* also consists of four judges, having the same titles as in the King's Bench, the seal of the court being committed to the Chief Justice. It is the only court where *real* actions, or such as relate to freehold property, can originally be brought. In this court, also, all other *personal* pleas between man and man are determined, but in some of these the court of King's Bench has a concurrent authority. 3 *Black.* 37. The suits are also divided into two sorts or classes; *pleas of the crown*, comprehending all crimes and misdemeanors in which the King, (on behalf of the public) is plaintiff; and *common pleas*, which relate to actions between subject and subject. This court can also hear and determine causes removed from inferior courts *by pone, recordare*, or other similar writs. It can likewise grant prohibitions to keep other courts, both ecclesiastical and temporal, within due bounds.

The *Court of Exchequer* is a court both of Law and Equity, originally esta-

blished by William the Conqueror, but reduced to its present form by Edward I. It is chiefly designed to superintend and manage the revenues of the crown, and to recover the king's debts and duties. It consists of two divisions, the one civil, and the other judicial; the former manages the royal revenue, and the latter takes cognizance of all legal proceedings connected with the same subject. This last is also divided into two distinct parts, the one a court of Common Law, the other a court of Equity. The court of Equity is held before the Lord Treasurer, the Chancellor of the Exchequer, the chief Baron, and the three *puisné* Barons. The business of this court originally, was to call the king's debtors to an account, and to recover property belonging to the crown, by bill filed by the Attorney-General; but other persons are now permitted to sue here. From the equity side of this court an appeal lies immediately to the house of Peers; but from the Common Law side a writ of error must first be brought into the exchequer chamber, whence an appeal lies to the same supreme tribunal.

Besides exercising their judicial authority in the respective courts above mentioned, the Judges perform their circuits, and hold assizes, for the administration of justice in the distant parts of the country. For this purpose, England is divided into six circuits, and Wales into four, independently of Middlesex and Cheshire, which are not included in any circuit, the first being the seat of the supreme courts of judicature, and the latter a county palatine. In Lancaster and Durham also, the king's ordinary writs have no force. The Judges of assize, who act within those franchises, sit by a special commission from the Lords of these counties, (*viz.* the King, as Duke of Lancaster; the Prince of Wales, as Earl of Chester; and the Bishop of Durham) and under the great seal thereof, and not under the great seal of England. The Judges go their circuits twice a year, except the northern one, in which the spring assizes are held at York and Lancaster, those in the other four counties being held in autumn only. In these circuits the Judges exercise their judicial functions under five separate commissions. "1. A commission of *Assize*, directed to themselves and the clerk of the *assize*, to take the assizes, that is, to take the verdict of a peculiar species of jury called an *assize*, summoned for the trial of cases relating to landed Property. 2. A commission of *oyer and terminer*, empowering them to hear and determine treasons, felonies, and other misdemeanors, whether the persons be *in gaol or not*. 3. A commission of *general gaol delivery*, to try every prisoner in the gaol committed for any offence whatever, but only such prisoners as are in gaol. 4. A commission of *nisi prius*, by which civil causes, brought to issue in the courts above, are tried, in the vacation, by a jury of twelve men of the county, where the action arises, and on return of the verdict of the jury to the *court above*, the Judges there give judgment. 5. A commission of *the peace*, in every county of the circuits."

The following are the circuits into which the southern part of Great Britain is divided, with the counties contained in each: *viz.*

IN ENGLAND.

Circuits.	Counties in each.	Circuits.	Counties in each.
1. Home Circuit	Essex, Hertford, Kent, Surrey, Sussex.	4. Midland Circuit	Warwick, Leicester, Derby, Nottingham, Lincoln, Northampton, Rutland.
2. Norfolk Circuit	Buckingham, Bedford, Huntingdon, Cambridge, Norfolk, Suffolk.	5. Western Circuit:	Hants, Wilts, Dorset, Somerset, Devon, Cornwall.
3. Oxford Circuit	Oxford, Berks, Gloucester, Worcester, Monmouth, Hereford, Salop, Stafford.	6. Northern Circuit	York, Durham, Northumberland, Lancaster, Westmoreland, Cumberland.

IN WALES.

North-eastern Circuit . .	Flint, Denbigh, Montgomery.	South-eastern Circuit . .	Radnor, Brecknock, Glamorgan.
North-western Circuit . .	Anglesea, Caernarvon, Merioneth.	South-western Circuit . .	Pembroke, Cardigan, Caermarthen

For the more effectual execution of justice at all times, a *Sheriff* is appointed by the King for each county. "As the keeper of the king's peace, the sheriff is the first man in the county, and superior in rank to any nobleman therein, during his office. He may apprehend and commit to prison, all persons who break the peace, or attempt to break it, and may bind any one in a recognizance to keep the king's peace. He may, and is bound *ex-officio* to pursue and take all traitors, murderers, felons, and other misdoers, and commit them to gaol for safe custody. He is also to defend his county against any of the king's enemies, when they come into the land; and for this purpose, as well as for keeping the peace and pursuing felons, he may command all the people of his county to attend him, which is called the *posse comitatus*, or power of the county; which summons every person above fifteen years of age, and under the degree of a Peer, is bound to attend upon warning, on pain of fine and imprisonment. Yet he cannot exercise the office of a justice of the peace, for then this inconvenience would arise, that he should command himself to execute his own precepts."—1. *Black*. 343.

The next officers to the sheriff are justices of the peace, of whom several are put in commission for each county. Their duty is to put great part of the statute law in execution, relative to highways, the poor, vagrants, treason, felonies, riots, the preservation of game, &c.; and they examine and commit to prison all who disturb the peace, or disquiet the king's subjects, removing them to the county jail for trial at the next quarter sessions, which are held four times a year before the justices of the county, or at the next county assizes, according to the nature of the offence.

The mode of trial by JURY, (as well as the independence of the judges,) is a glorious feature in the executive branch of the British Constitution. Twelve respectable men of the county, or neighbourhood, where the crime is committed, and

who are best qualified for the office, are constituted the true and proper judges of the *fact*. When a man is charged with any capital offence, and committed to the county gaol by the magistrates of the district where the offence took place, the charge must first be examined by the grand jury, whose province it is to ascertain if there be sufficient grounds for exposing the person accused to the ignominy of a public trial, for, in the eye of the law, he is considered innocent till it be fully proved to the contrary. Unless a bill of indictment therefore be found against the prisoner by a majority of this jury, he is immediately acquitted.

In case of a trial, the person accused is furnished with a list of the jury who are to be his final judges, and is allowed in open court to object to any against whom he can assign reasons for their not being admitted, until twelve unexceptionable men are approved; and in order to secure all possible impartiality in the trial, if the person indicted be a foreigner, half the jury are also to be foreigners, if the accused person so desire; otherwise, it is not compulsory that the jury should be thus constituted. They are then sworn that they shall well and truly try, and deliverance make between the king and the prisoner whom they shall have in charge, according to the evidence. On these juries the prisoner rests his cause, and the verdict they pronounce is final. After they have fully heard the evidence produced, the prisoner's defence, the comments of the judge on the testimony given, his exposition of the nature of the crime, and the bearings of the law upon it, under every possible aspect, they are confined without meat, drink, or candle, till the *whole* are unanimous in acquitting, or condemning the prisoner. Trial by jury, as thus constituted, is evidently one of the greatest bulwarks of the English constitution. If one of the jury die while they are locked up, the prisoner is acquitted; for, as that man could not join in the verdict, the law does not regard it as the *unanimous* act of the *whole*.

The Sovereign is the fountain of honour, and bestows all titles of nobility, knighthood, and other dignities. He nominates his own privy council, (who are his constitutional advisers on national affairs,) and the great officers of state, as well as the household. The king also raises armies, and fits out fleets for the defence of the kingdom, the annoyance of his enemies, or the suppression of intestine commotions; but the exercise of this power is necessarily limited, because the money is granted by Parliament. He likewise grants commissions to officers in the army and navy, which he can recall at pleasure. All garrisons, castles, forts, havens, and ships of war, are placed at his disposal, or rather that of his ministers, who act in his name and by his authority. He is also the commander of the forces by sea and land, which is generally executed by great naval and military officers, to whom he delegates the important charge. The friendly and diplomatic intercourse with foreign nations, is maintained by ambassadors of the king's own appointment. He has, also, the power to make war or peace, to form alliances, and enter into treaties, offensive, defensive, and commercial. He is the head of the church, and from the time this title was assumed by Henry VIII., he has constantly been styled His Most Sacred Majesty. This ecclesiastical power extends to the calling, regulating and dissolving of national and provincial synods. He also issues his *cong   d'Elire* to the Dean and Chapter, on the vacancy of a bishopric, and recommends the person whom they are to elect to the vacant see, by refusing to comply with which they incur the penalty of a *pr  munire*.

In consequence of the executive part of the Constitution being entrusted to the king, and to officers of his appointment, whose salaries are paid by him, an appropriate revenue is assigned by the nation, and denominated the civil list, out of which the officers of the household, the great officers of state and of the law, the ambassadors, and others employed in the executive branch, are remunerated. This

revenue exceeds one million sterling ; but the greater part is expended for the purposes above mentioned.

It would be impossible, in a work of this general nature, to attempt any thing like an analysis of the jurisprudence of England, either as to its general principles, or its particular operations. It may be observed, however, that all capital crimes are included under high treason, petty treason, and felony.

High treason is the greatest crime known to the laws, and is accordingly punished with peculiar circumstances of ignominy. The several offences which come under that denomination, were limited, by the statute 25th Edward III., to seven distinct branches, of which, the compassing and imagining the king's death, and the conspiring to levy war against his authority, were the principal. Other treasons have since been added, relating to papists, falsifying the coin, or other royal signatures, and for the security of the protestant succession in the House of Hanover. Two new treasons were created during the late reign, (36. Geo. III. ch. 7.) viz. that of compassing and imagining to depose the king, and conspiring to levy war to force the crown to change its measures and its councils. The sentence of the law against this offence is, that the offender shall be hanged, drawn, and quartered ; and forfeit his lands and goods to the king. The more refined humanity of modern times, however, has dispensed with the literal application of this punishment. Persons convicted of high treason are first hung till they are dead, they are then taken down and decapitated, the drawing and quartering are wholly disused. *Petty treason* is when a wife murders her husband, a servant his master or mistress, an ecclesiastic a prelate, or one to whom he owes obedience, the punishment for which is, to be drawn on a sledge to the gallows and hanged. *Felony* includes murder, robbery, forging, maiming, or stabbing with a sharp instrument, &c. ; for all which the law awards the sentence of death. Murderers are executed within 48 hours from the passing of the sentence, and their bodies dissected. The sentence for robbery, unless attended with circumstances of brutality, is frequently commuted for either transportation, or imprisonment on board the hulks.—Fines, imprisonment with hard labour, pillory, and whipping, are the chief punishments assigned by the law for minor offences.

The late agitated state of Europe, and the prominent part Great Britain took in the overthrow of ambition, the destruction of anarchy, and the restoration of peace to the conflicting nations of the Continent, have raised both the ARMY and NAVY to an unprecedented extent, and elevated her military and naval renown to a pitch surpassing all former periods of her history. At the commencement of the French Revolution, the regular troops of this country did not exceed 40,000 ; but in 1801, the war had raised them to 149,865. At the close of the war, those immediately belonging to the empire, that is, exclusively of foreign regiments in the British service, amounted to 640,000 men ; while the total number of men in arms, in the whole of the British dominions, including yeomanry and volunteers, exceeded a million. *Dr. Colquhoun* gives the following statement for this period, viz.

The land Forces, or men in arms in the British Empire, including the Regular Army and Foreign Corps, the British and Irish Militias, the Local Militia and Volunteers of Great Britain ; with the Militia and Fencibles in the Colonies and Dependencies, are estimated at	}	721,187
The British Navy and Marines		
The British Native Army in India, including the India Marine Forces		179,920
		160,913

Total armed Force of the British Empire 1,062,020

The peace, however, has greatly reduced the Army, not only by removing the foreign troops from our pay, but by diminishing both the number and extent to the

native regiments ; so that the amount of the whole regular troops, provided for by Parliament, in 1819, was 91,823, including the 11,340 men added, in consequence of the late disturbed state of the country, and exclusively of the regiments employed in the territorial possessions of the East India Company.

The insular situation of Britain, and her extensive possessions in all parts of the world, must always render her Navy the principal bulwark of her national security, and the grand protection of her wide-spread empire. Washed on all sides by the Ocean, Britain has for ages claimed the sea as her peculiar element, and, from the battle of La Hogue, has maintained it. At the death of Queen Elizabeth, the total number of ships belonging to the British Navy, was 42, the largest carrying 40 guns ; and the whole number of seamen 8,376. At the commencement of his late Majesty's reign, the navy had increased to 136 ships of the line. In April 1814, there were 727 ships of war in commission, 157 of which were ships of the line ; 24 from 44 to 50 guns ; and 145 frigates. The remainder were sloops, bombs, fire-ships, brigs, cutters, and schooners. Besides these there were in ordinary, repairing, and building, 93 ships of the line, and 202 vessels of other descriptions, making a total of 1,022. The whole number of seamen and marines, at one period of the late war, was estimated at 184,000 men. The vast extent of the British possessions in all parts of the globe, necessarily require a corresponding naval peace establishment ; but the humiliated state of our rival navies allowed this number of seamen to be reduced by parliament to 20,000, including 6000 marines. A proportionate number of ships are kept in commission, and this force appears adequate to our wants in the present state of Europe.

Such extensive armaments necessarily involve a vast expenditure, and hence the magnitude of the REVENUE of Great Britain, which exceeds that of any other country in the world. The expensive wars in which the country has been engaged, have also compelled it to have recourse to the borrowing of money for the public service, and of levying taxes for the regular payment of the interest. The national expenditure has thus been greatly increased, and the debt has now so far accumulated as to require a great proportion of the annual revenue to pay its interest. The revenue arises from various sources, the principal of which are the duties of the Customs and Excise ; the stamp duties ; the land and assessed taxes ; with the produce of the post office. These are divided into two distinct classes, the permanent taxes, and the war taxes, the latter including the additional duties of Customs and Excise, and the income tax. The duties are generally divided into three classes, the consolidated duties, the annual duties, and the war duties.

The following Abstract of the *net* produce of the Revenue of the United Kingdom of Great Britain and Ireland, for the years ending on the 5th of January, 1817 and 1818, will show the produce of its various branches.

	Year ending 5th Jan. 1817.	Year ending 5th Jan. 1818.
Consolidated Duties	£6,306,448	£8,373,770
Annual Duties	2,393,201	2,871,505
War Taxes	1,008,366	
Total produce of the Customs	9,708,015	11,245,275
Consolidated (including Assessed } Taxes in Ireland)..... }	20,161,318	18,501,503
Annual Duties	534,124	258,131
War Taxes	4,462,074	3,097,312
Total Produce of Excise	25,157,516	21,856,946

	Year ending 5th Jan. 1817.	Year ending 5th Jan. 1818.
Stamps.....	6,472,106	6,857,687
Post Office	1,498,001	1,390,230
Assessed Taxes	5,783,322	6,127,529
Property Tax	11,185,584	1,268,458
Land Taxes.....	1,127,929	1,163,320
Miscellaneous	444,688	688,930
Unappropriated Duties	374,006	1,062,073
Pensions and Annual Duties	4,016	
	<hr/> 26,889,652	<hr/> 18,558,227
Total Net Revenue	61,755,183	51,660,448

The net produce for 1819 was £68,348,714 19s. 2d.

The amount of the *gross* produce of the Revenue of Great Britain, for ten years, ending 5th January 1819, was as follow.

For the year ending 5th Jan. 1810....	£70,240,227....	for 1815....	£41,324,292
1811....	74,040,544....	1816....	85,311,707
1812....	71,113,588....	1817....	73,022,676
1813....	70,455,680....	1818....	47,247,631
1814....	79,448,111....	1819....	71,074,746

The net produce of the Revenue of Great Britain for the year ending 5th January, 1820, was £48,162,232.

The amount of the Public Funded Debt of Great Britain, distinguishing the redeemed and the unredeemed; together with the annual charge thereon, and the sinking fund applicable to its discharge, on the 5th of January, 1818, was the following:

Great Britain and Ireland, consolidated by 56 George III. c. 98.

Public Funded Debt	£1,109,123,032
Debt Redeemed	558,557,624
Debt Unredeemed	748,201,991
	<hr/>
Charges exclusive of the sinking Fund, estimated at....	27,866,439
Sinking Fund, estimated at.....	13,847,137
	<hr/>
Total annual Charge, estimated at	41,713,576

The statements exhibited in this chapter, in connexion with the territorial dominions of Britain in all parts of the globe, strikingly display her paramount **POLITICAL IMPORTANCE** in the scale of existing nations.—In *Europe*, the legions of the boasted *Invincibles* have vanished before her armies, while the navies of confederate powers have sunk before her fleets. Her counsels and example not only reanimated fallen nations, and roused them into life and energy, but taught them to rally round the standard of patriotism, led them to conflict and victory, and finally released them from the tyrannical yoke of him, whose “dominion, like a pestilence blighted the energies of nature, and whose footsteps were tracked by desolation, silence, and despair.” Such was the system, and such were the calamities which found their grave in the field of Waterloo, when Europe received her deliverance at our hands. The integrity and the prowess of Britain have caused her alliance to be courted by the proudest, her power to be dreaded by the strongest, and her renown to be envied by the most ambitious, of her rivals.

In *Asia*, the extent of her empire, and the authority of her influence, admit of no European competitor, and can scarcely be controverted by the most powerful of the oriental nations. In *Africa*, Britain is known and respected from one

extremity to the other; and while the Egyptian, the Ethiopian, and the Negro, willingly acknowledge her superiority, and bow to her ascendancy, the chastised Algerine will not easily lose the recollection of her promptitude and power.

In the *transatlantic* world, the possessions of Britain, both continental and insular, are equally varied and extensive. While they supply her with the productions of almost every clime, they bring her into close alliance with almost every part of that vast continent, and cause her friendship to be conciliated, or her hostility deprecated, from the ice-bound confines of the New World, to the storm-beaten Cape, which terminates its southern promontory.

With such wide-spread territories *alone*, Britain would still be weak and powerless, and region after region would fall from her feeble grasp. But nature has poured the liquid ocean round her coasts, indented them with excellent harbours, and amply supplied materials for her floating bulwarks. Of these natural resources, our ancestors wisely availed themselves to become a maritime and mercantile people, and the courage and enterprise of their successors have now advanced her naval supremacy and commercial greatness beyond all precedent.

This complete dominion of the sea, gives to Britain a free intercourse with all parts of the world, and her manufactures supply every article which administers to the necessities, or increases the comforts of life, under all its varied forms. The ingenious industry of the country is constantly replenishing these stores, and its commercial enterprise as unceasingly conveys them to every region to which a vessel can approach. The territorial possessions, and the commercial connexions, of Britain, therefore, justly give to her political influence and relations the title of *universal*, for wherever the comforts of life are valued, integrity respected, or the exchange of manufactured articles for crude materials encouraged, there British enterprise and influence are seen.

In estimating the **POLITICAL RELATIONS** of Britain in reference to the states of the adjacent continent, her naval superiority, her having contended, singly and successfully, against the most powerful combinations of her opponents, and the part she took in the final struggle, by which Europe was lately so terribly convulsed, must all be balanced in the scale of impartial judgment. When these facts are carefully examined, and their future influence assiduously traced, Britain will appear as the *Key-stone* of that arch, upon which the political equilibrium of Europe reposes. Suppose her, for a moment, detached from the political compact; her fleets annihilated, her industry, her manufactures, her commerce, and her treasures engulfed in the ocean, and there instantly appears a chasm in the political organization of Europe, which all the other nations are unable to fill up. Rich in vegetable and mineral treasures, covered with a dense population, enlightened by knowledge, animated by freedom, and blest with a constitution the most liberal, and a religion the most benign, Britain possesses both internal and external sources of political power, of which no other state can boast. In point of situation, in political views and political interests, France is naturally opposed to Britain. An alliance, therefore, with the Netherlands, must be mutually beneficial. To the one party as a protection against a powerful neighbour, and to the other, as a direct passage to the continent, through which her manufactures and colonial produce may be transmitted. The exchange of British merchandize for the produce and treasures of Spain and Portugal, is productive of reciprocal advantages. The events of the last few years, have shown how far Britain may avail herself of an alliance with these countries, towards frustrating the ambitious plans of her Gallic rival, while from the hostility either of Spain or Portugal she has nothing herself to fear. Austria and the German confederacy must constitute the grand barriers to

French influence on the continent, and may consequently be rendered subservient to the political interests of Britain. Switzerland is too weak, too secluded, and her wants and products too few, to be of much importance in the scale either of political or commercial relations. Prussia has again become a great nation, and has wants to supply, which Britain is best prepared to meet. Its position with respect to the predominant power of the north, also renders this kingdom politically important; and the time may arrive when the aid of England or Austria may be necessary to preserve its very existence. Our commercial relations with the Danes and the Swedes, are mutually convenient; but, in the present state of those countries, the political connexion cannot be of great moment to Britain, except as it relates to a free navigation of the Baltic, especially in the event of a war with Russia. With regard to Sweden, however, the circumstances are reversed, for an alliance with England appears almost essential to her independent existence. Russia has a vast population, thinly scattered over an immense empire, which diminishes her power and her resources, but at the same time, it also diminishes her wants. The commercial transactions between Russia and England, have long been extensive and mutually advantageous. With respect to political influence, Russia has lately made more rapid advances than any other European state. Her population has greatly increased; the condition of society has been meliorated, all the arts of life are in a state of progressive improvement, the experience of the late war has increased the efficiency of the army, the acquisition of Poland has removed her frontiers almost to the heart of Germany, while one of her fleets commands the Baltic, and the other the Black sea, whence they have easy access to the ocean and the Mediterranean. Under these circumstances, the navy and the treasures of Britain obviously present the most formidable barriers to that spirit of aggrandisement which Russia has long manifested. And may it not be in this quarter, Europe shall once more receive her deliverance from *our* hands?—With respect to our political relations with Italy and Turkey, they are of comparatively little moment, except so far as the one may be considered the medium of our commerce with the northern states of Africa, and the other with the Levant. These advantages, however, have both been diminished by our possession of Malta and the Ionian Isles.

Viewing Britain therefore in the late eventful period of her history, and as she now stands, the supporting column in the grand political fabric of Europe, we may say with an elegant author, on another occasion, that “Britain may challenge the world to produce her equal, and anticipate nothing but triumph in the competition.”

CHAPTER VI.

Religion—Ecclesiastical Geography—Education—Language and Literature—Arts and Sciences—Manners and Customs.

THE introduction of the Roman Catholic RELIGION into this country, has already been noticed in the description of Canterbury, the place where it was first embraced. After having been the Religion of the kingdom for ages, it was subverted, in the 16th century, and the Protestant faith finally established during the reign of Elizabeth, upon the basis of episcopacy. Its principles are more tolerant than those of any other national church, moderation being its ruling character, and allowing to all religious sects, the free exercise of those forms of public worship which best accord with their interpretation of the Holy Scriptures. A participation in the principal rites of the established church is, however, an indispensable condition for holding any situation of honour or power in any department of the state. In all public writs, the king is styled supreme head of the church but this title only expresses the royal power in respect to her temporal economy, which is never exercised in ecclesiastical affairs, except to prevent their too violent agitation. The church is governed by two Archbishops, and twenty five Bishops, for England and Wales, all of whom, except the Bishop of Sodor and Man, are endowed with senatorial rank, and possess the style and title of nobility. The two Archbishops are those of Canterbury and York, who consecrate and preside over the Bishops of their respective provinces, in the same manner as each Bishop ordains and presides over the clergy of his diocese. The Archbishop of Canterbury is styled Primate of all England, and enjoys some peculiar privileges. He takes precedence of all but princes of the Royal Family; crowns the King and Queen; has the power to grant special licenses for marriage at any time or place, and for holding two livings. The Archbishop of York is styled Primate of England, and takes the precedence of all Dukes, not of the Royal Family, and of all the officers of the state, except the Lord Chancellor. To the Bishops belong the ceremonies of dedication, confirmation, and ordination. They have also a judicial power relative to births, marriages, wills, filling up benefices, and the general interests and regulations of the church. The Bishop of London, as presiding over the capital, takes precedence of all the other Bishops, and is followed by the Bishop of Durham, as presiding over a see which constitutes a county palatine. The Bishop of Winchester is the third in dignity. The others rank according to the seniority of their consecration. Many of the Bishoprics existed before the Reformation, and five were added by Henry VIII.; viz. those of Chester, Gloucester, Peterborough, Bristol, and Oxford.

The following list embraces the titles and extent of the Bishoprics, arranged under the respective provinces to which they belong: viz.

PROVINCE OF CANTERBURY.

<i>Bishoprics.</i>	<i>Counties in each Diocese.</i>
1. London	Essex, Middlesex, and part of Kent.
2. Winchester	Surrey, Hampshire, Jersey, Guernsey, and Alderney.
3. Litchfield & Coventry	Staffordshire, Derbyshire, part of Warwickshire, and Shropshire.
4. Lincoln	{ Lincolnshire, Leicestershire, Huntingdonshire, Bedfordshire, Buckinghamshire, and part of Hertfordshire.
5. Ely	Part of Cambridgeshire.
6. Salisbury	Wiltshire and Berkshire.
7. Exeter	Devonshire and Cornwall.
8. Bath and Wells	Somersetshire
9. Chichester	Sussex.
10. Norwich	Norfolk, Suffolk, and part of Cambridgeshire.
11. Worcester	Worcestershire and part of Warwickshire.
12. Hereford	Herefordshire and part of Shropshire.
13. Rochester	Part of Kent.
14. Oxford	Oxfordshire.
15. Peterborough	Northamptonshire and Rutlandshire.
16. Gloucester	Part of Gloucestershire.
17. Bristol	Bristol, part of Gloucestershire, and Dorsetshire.
18. Landaff	Glamorganshire, Monmouthshire, Brecknockshire, and Radnorshire.
19. St. David's	Pembrokeshire, Cardiganshire, and Caermarthenshire.
20. St. Asaph	Parts of Flintshire, Denbighshire, Montgomeryshire, and Shropshire.
21. Bangor	{ Anglesea, Caernarvonshire, Merionethshire, with part of Denbighshire and Montgomeryshire.

PROVINCE OF YORK.

22. Durham	The Counties of Durham and Northumberland.
23. Carlisle	Part of Cumberland and Westmoreland.
24. Chester	Cheshire, Lancashire, parts of Cumberland, Westmoreland, and Yorkshire.
25. Sodor and Man	Isle of Man.

To every Cathedral belong a Dean and several Prebendaries, who constitute the Dean and Chapter, or the council, whose office it is to assist the Bishop with their advice in managing the affairs of his diocese. The next order of ecclesiastics in the church of England, is that of Archdeacons, whose office is to inspect the moveables of the church, to reform slight abuses, and to induct to benefices. Their number is sixty. Rectors, Vicars, Curates, and Deacons succeed, and they constitute the numerous and efficient part of the hierarchy. The clergy, in general, enjoy several peculiar privileges. They cannot be compelled to fill any civil or military office; they can only be fined to the amount of their temporal estates; nor are they assessed with the rest of the parish for the repairs of highways, the expenses of watching, prosecuting for robberies, &c. According to the last diocesan returns, the total number of benefices in England and Wales (including 133 dignities) was 10,582; the number of resident parochial Clergy 5379, and of the non-residents 5037, of whom 986 did duty. The number of Curates, where the incumbents were not resident, was 3926. The whole annual income of the Clergy of the Church of England, of all ranks, in South Britain, has been estimated at £3,000,000.

The law of England considers all persons as Dissenters who do not conform to the mode of worship established by the Church of England, and of these there are various sects. The principal are Presbyterians, Methodists, Independents, Baptists, Quakers, Unitarians, and Swedenborgians. There are also many Roman Catholics in some parts of England. The *Presbyterians* have their denomination from their particular form of church government, which is that of a certain number of elders. The *Methodists* are of recent origin, but the most numerous of all the classes of dissenters. They originated about 70 or 80 years ago, under the preaching of Whitfield and

Wesley, and consist of two distinct bodies. The followers of Whitfield hold the doctrines of Calvin, and of Wesley those of Arminius. The Independents are, in general, Calvinists, and maintain that each congregation has a right to make laws for its own internal regulation. The *Baptists* admit of only adult baptism, and are most of them Calvinists. It should be remarked, however, that the majority of all these sects hold the doctrines of Calvin only in part, their views of the Scriptures leading them to admit election, but to deny reprobation. The Quakers also originated in this country from the preaching of George Fox, during the latter half of the 17th century. The *Unitarians* maintain the unity of God in opposition to the trinity. The *Swedenborgians* are so called from having adopted the reveries of Baron Swedenborg. The *Moravians* have settlements in London, and various other parts of the country, but they are not numerous.

The education, language, literature, arts, sciences, manners, and customs of the English, are subjects so familiar to every reader, that in touching upon them brevity becomes an indispensable requisite.

The higher and middle classes in this country pay great attention to the EDUCATION of their children, though it is to be lamented, especially with respect to the fair sex, that superficial acquirements too often supply the place of solid instruction. The means of tuition are now widely diffused through the country, both in public and private schools, where classical literature, general knowledge, the elements of the sciences, and all the accomplishments of life are successfully taught. The two Universities, of Oxford and Cambridge, distinguished no less for the liberality of their endowments than venerated for the talents and learning with which they have long been conducted, are the two grand foci from which science and literature are constantly emanating. The public schools of St. Paul's, Harrow, Eton, Westminster, Winchester, and Rugby, are admirable institutions for the preparation of those who are intended to complete their education in those two great seats of learning. Each University sends two members to Parliament, and its chancellor and officers have a civil jurisdiction over the students, and all others, during their residence there. Military and naval instruction is also established on a suitable scale at the public expense: and the Royal Military Academy at Woolwich, the Royal Military Colleges, at Farnham, in Surrey, and at Sandhurst, in Berkshire, with the Royal Naval College at Portsmouth, are all institutions of national importance. The present age has been honourably distinguished by its attention to the education of the poor, and its admirable establishments for that purpose. Sunday, and other schools, upon the plans of Bell and Lancaster, supported by the munificence of public liberality, now bring the elements of useful and religious knowledge within the reach of the meanest individual. Their effects in enlightening the minds, improving the morals, and elevating the character of those in humble life, are manifest. The removal of ignorance, the diffusion of knowledge, and the increase of human happiness, by implanting in the youthful bosom a veneration for truth, and sowing there the seeds of love to God and man, are the legitimate objects of these institutions.

The English LANGUAGE is radically Gothic, but enriched with numerous words and phrases from the Greek, Latin, and French, as well as from the Italian and Spanish, though it differs in its structure from them all. It is, in fact, a compound of various languages, formed and polished at different periods, as new wants arose, and new ideas were introduced by the progress of civilization and science. The oldest dialect of the English language is the Anglo-Saxon, in which numerous manuscripts still exist in the libraries of the curious. One of its most classic authors was Alfred the Great, whose translations of Bede and Boethius have been published. The Norman conquest, and the desire of the Conqueror to

supplant the Anglo-Saxon by the Norman French, rendered it the language of the court, and of a few persons in the superior classes of society; but very little alteration was effected in the dialect of the country. The conquests of Edward III., however, and the enlarged intercourse with France during the 14th century, effected that change which the Conqueror had vainly attempted to produce.

The earliest specimens of what may, with propriety, be denominated the English language, are exhibited by Chaucer in poetry, and the enterprising, but fabulous, Sir John Mandeville, in prose. In the reign of Elizabeth it had acquired a copiousness, a dignity, and a force, which it has never surpassed, for what it has since gained in variety and elegance, it has lost in energy and expression. Sydney's Defence of Poesy is a good specimen of the prose of that age, while a more splendid or familiar example of poetry than Shakespeare, cannot be selected. The common translation of the bible affords a noble proof of the simple dignity of the English language in the reign of James I: and Milton's immortal Paradise Lost, may be regarded as a lofty specimen of a subsequent reign. For the peculiarities in the structure of the English language, as well as in its effect when contrasted with other ancient or modern tongues, we must refer to works written expressly on the subject.

England may be regarded as the birth-place of philosophy, the seat of science, and the haunt of the muses. In the earliest periods of British history, poetry was cultivated by the Druids, who are represented as exciting the people to virtue and valour by the recital of traditionary verses: but, as they did not commit them to writing, no specimens have been preserved, from which we can estimate their proficiency as poets. Their power as orators, however, stands recorded: for "when two hostile armies, influenced with warlike rage, with swords drawn, and spears extended, were on the point of engaging in battle, at their intervention they sheathed their swords, and became calm and peaceful."

The names of *Gildas* and *Bede*, the last of whom finished his history of England about the year 731, are venerable in the early annals of English literature. The wise and magnanimous Alfred, like Charlemagne, was not only the unwearied patron of learning in all its branches, but was himself a scholar and a philosopher, and contributed, more than any other individual of his age, towards the refinement of the Saxon tongue. The successful expeditions of the Danes, however, checked the progress of English literature, and the Saxon Chronicle is the only memorable work between the 8th and the 12th century, though it became more diffused during the three following centuries. Gower and Chaucer enlarged the stores of poetry, while the invention of printing facilitated the interchange of knowledge. From that period, the literature of England became equally distinguished for the depth and variety of its researches, and for its constant tendency to practical utility. A brief view of its present state may be arranged under the general heads of poetry, history, criticism, and romance.

To delineate the progress of each of these branches of literature would be foreign to the present purpose. It has been well observed, however, that "*poetry* is the oldest, the rarest, and the most excellent of the fine arts. It was the first fixed form of language; the earliest perpetuation of thought; it existed before prose in history, before music in melody, and before painting in description. Anterior to the discovery of letters, it was employed to vent the praises of God, to communicate the lessons of wisdom, and to celebrate the achievements of valour; music was invented to accompany, and painting to illustrate it. The art of constructing easy, elegant, and even spirited verse, may be acquired by any mind of moderate capacity, and liberal instruction. But to give the law that quickens the

pulse, flushes the cheek, warms the heart, and expands the soul of the reader, playing upon his passions as upon a lyre, and making him feel as if he were talking to a spirit,—this is the *art of nature herself*, invariably and perpetually pleasing, by a secret and indefinite charm, that lives through all her works, and causes the very stones to cry out, ‘the hand that made us is divine.’” F. Schlegel, in his lectures on the history of Literature, has justly observed, that *Spenser, Shakespeare, and Milton*, the “three greatest poets of England, contain within themselves every thing that is really great and remarkable in regard to her elder literature of the sixteenth and seventeenth centuries. The chivalrous poem of Spenser, the *Fairy Queen*, presents us with a complete view of the spirit of romance, which yet lingered in England among the subjects of Elizabeth; that maiden Queen who saw herself, with no ordinary delight, deified while yet alive, by such playful fancies of mythology and the muse. Spenser is a perfect master of the picturesque; in his lyrical pieces there breathes all the tenderness of the Idyll, the very spirit of the Troubadours.”

The same author has also remarked that, “the admiration with which Shakespeare regarded Spenser, and the care with which he imitated him in his lyric and idyllic poems, are circumstances of themselves sufficient to make us study, with the liveliest interest, the poem of the *Fairy Queen*. It is strange, but delightful, to scrutinize, in his short effusions, the character of Shakespeare. In them we see, that he who stood like a magician above the world, penetrating with one glance into all the depths, and mysteries, and perplexities of the human character, and having power to call up into open day the darkest workings of the human passions; that this great being was not deprived of any portion of his human sympathies, by the elevation to which he was raised, but preserved, amidst all his stern functions, a heart overflowing with tenderness and love. Other poets have endeavoured to transport us, at least for a few moments, into another and an ideal condition of mankind: but Shakespeare is the master of reality: he sets before us, with a truth that is often painful, man in his degraded state, in that corruption which pervades and contaminates all his being, all that he does and suffers, all the thoughts and aspirations of his fallen spirit. This poet, who externally seems to be the most calm and temperate, clear and lively, with whom intellect seems every where to preponderate: who, as we at first imagine, regards and represents every thing almost with coldness, is found, if we examine into the internal feelings of his spirit, to be of all others the most deeply sorrowful and tragic. Shakespeare regarded the drama as entirely a thing for the people: and, at first, treated it throughout as such. Even in the earliest of his tragic attempts he takes possession of the whole superstitions of the vulgar, and mingles in his poetry not only the gigantic greatness of their rude traditions, but also the fearful, the horrible, and the revolting. All these again are blended with such representations and views of human debasement, as passed, or still pass with common spectators for wit; but were connected with the depths of his reflective and penetrating spirit, with the very different feelings of bitter contempt or sorrowful sympathy. The feeling by which he seems to have been most connected with ordinary men, is that of nationality. He has represented the heroic and glorious period of English history, during the conquests in France, in a series of romantic pieces, which possess all the simplicity and liveliness of the ancient chronicles, but approach, in their ruling spirit of patriotism and glory, to the most dignified and effectual productions of the epic muse.”

The serious and stately muse of Milton had to labour under all the disadvantages which attend those who attempt to make the doctrines and mysteries of religion the subjects of poetical delineation, besides those which are peculiar to the

protestant as compared with the catholic poets. Yet, he must be classed with the first and most sublime votaries of the muse, not only of this country, but of the world. Milton's *Paradise Lost* is not a complete whole, but only the first part of the great christian history of man, in which the creation, the fall, and the redemption, are all essential parts of the same mighty drama. The excellence of this epic work consists, therefore, not in the plan of the whole, so much as in particular beauties and passages and, in general, in the perfection of lofty poetic language.

British poetry, of subsequent periods, is extremely abundant, and possesses almost every varied excellence, but the prevalence of reading in the present age, renders it too familiar to need elucidation. None of these poets, however, are considered as rivalling the three poets above described, particularly Shakespeare and Milton. Pope's translation of Homer contributed to increase the general veneration for that great poet of antiquity, while the original poems of the same author furnish many traces of that thought which has rendered didactic poetry such a favourite subject in England. "The common materials of didactic poetry were, however, often combined in England with the more poetical elements of passion and melancholy; as, for example, in the gloomy and enthusiastic Young. Thomson expressed his feelings more tastefully and beautifully, in that species of poetry, so much admired by his countrymen, and after his own time so much copied by foreigners, the descriptive. The passion for nature was the origin of the national love of Ossian; and, although neither the sorrow of Ossian, nor the despair of Young, be every where prevalent, the spirit of serious meditation is certainly much more diffused over the lyric poems of England during the eighteenth century, than those of France."

Respecting the present state of English poetry, Madame de Staël has observed, "English poetry, which is fostered neither by irreligion, nor the spirit of faction, nor licentiousness of manners, is still rich and animated, experiencing nothing of that decline which threatens successively the literature of most other countries in Europe. Sensibility and imagination preserve an immortal youth of mind. A second age of poetry has arisen in England, because enthusiasm is not there extinct, and because nature, love, and country, always exercise great power there. Cowper lately, and now Rogers, Moore, Thomas Campbell, Walter Scott, Lord Byron, in different departments and degrees, are preparing a new age of glory for English poetry; and while every thing on the Continent is in a state of degradation, the eternal fountain of beauty still flows from the land of freedom."

The same learned author also remarks, that the "English works on *criticism*, and in particular, most of their treatises on poetry and the imitative arts, are distinguished by greater freedom, originality, and knowledge of the antique, and bear on these accounts a greater affinity to our own (German) modes of thinking than those of the French."

"Of all the works connected with elegant literature, which the English produced during the last century, by far the most important are their great historical writings. They have in this department surpassed all the other European nations; they had at all events the start in point of time; and have become the standard models both in France and Germany." *F. Schlegel's Lectures.*

The English *romance* may be considered as a poetical narration of incidents taken from real life and actual manners; and, in this respect, is doubtless superior to the French productions of the same class. The early times of England, unlike those of Spain, were not rich in chivalrous romances. The imagination seems to have been chilled by the manners of the Norman conquerors. The domestic contests for the disputed throne, with their intrigues, battles, and executions, have

none of that rich, poetical interest, which attended the struggles for the holy sepulchre. Nor in the golden age of English genius, were there any very remarkable works of pure fiction. Since that time, however, and down to the present period, there has been a constant succession of novels and romances.

In strength of thought, invention, and depth of impression, Richardson excels. The most successful imitators of Cervantes are Fielding and Smollet; but of all the English romances, the *Vicar of Wakefield* stands pre-eminent. It has been justly denominated “a tenderly-coloured picture of human nature’s most genial qualities.” The other species of romance, which evaporates in the mere display of grotesque wit and exaggerated sentiment, was most successfully cultivated by Sterne. With respect to those works of visionary intellect, which constitute the daily food of fashion, a judicious observer remarks, that the English novels and romances surpass the French. Smollet and Fielding, indeed, are decidedly superior to the best novelists of that country, though the great work of the latter (*Tom Jones*) has been regarded, by Warburton at least, as an imitation of the *Payfan Parrem*, by Marivaux.

In adverting to the present state of science and philosophy it may be useful to take a retrospective glance at those causes which have contributed so largely to their progress, and which still influence almost every department. In reference to this subject, *Schlegel* has the following judicious remarks. “The sixteenth century was the age of ferment and strife, and it was only towards its close that the human mind began to calm and collect itself after the violent convulsion it had undergone. With the seventeenth century commenced that new mode of reflection and inquiry to which the way had been laid open by the restoration of classical learning, the great improvement in natural science, and that universal shaking and separation of faith occasioned by the reformation of Luther. The first name to which we turn is that of the great Bacon. This mighty genius, by carrying the spirit out of the moral contentions of the dead schools, into the regions of experience, above all of life and nature, has become the father of modern physics; he made and completed many illustrious discoveries himself, of many more he seems to have had a dim and imperfect foresight: it is the work of ages to follow out the hints which are dropt by such a spirit in the progress of its excursions. By means of his rich and indefatigable intellect, the whole sciences of experience have been immeasurably enlarged, or rather they have been entirely regenerated; the common shape of mind, nay, we may say, the common shape of life in modern Europe, has received a spark of new animation from the inspiring touch of this Prometheus.”

“After this glorious sun had set,” observes an elegant writer, “arose Newton, and Boyle, and Locke, and a constellation of brilliant orbs in the world of intellect.” These, with the establishment of the Royal Society, and other kindred Institutions, have all contributed to elevate the scientific character of England, and to foster the efforts of her rising genius in philosophic attainments, and their application to the practical purposes of life; Britain must, therefore, be ranked among the most pre-eminent examples; for in no country have greater exertions been made to increase the products of the soil, to abridge human labour, to produce superior articles at the least expense, or to conduct difficult and dangerous processes with comfort and safety to the persons employed.

While the Italians, the Flemings, and the Dutch, were deriving wealth and honour from the perfection to which they had carried painting, England presents almost a blank in the imitative art. The seventeenth century, however, exhibits some excellent specimens of miniature painting; and the patronage which the art, in

general, has experienced during the last fifty years, at once marks the refinement of the age, and tends to promote it. A multiplicity of eminent British artists have, in consequence, arisen; at the head of whom was the lately-departed *West*, whose works, while they gratify taste, and improve the moral sentiment, do equal honour to the artist and the country that produced them.

Though England is more renowned for comfortable mansions than splendid palaces, and for commodious churches than superb cathedrals, architecture and sculpture have not been stationary, while painting was advancing in her brilliant career. In addition to the works of the celebrated *Inigo Jones* and *Sir Christopher Wren*, those of other artists have done honour to subsequent periods. Engraving has, also, been carried to great perfection in England; but in musical skill, Italy and Germany must be acknowledged her superiors.

From the era of savage wildness, when our ancestors lived upon the spontaneous fruits of the earth, and the produce of the chase, to the present period of luxury and refinement, the MANNERS and CUSTOMS of Britain have experienced a constant mutation. Hence,

“To catch the manners living as they rise,”

and paint the fleeting shadow as it passes, has always been a difficult task, and especially for a native historian, whose keenness of observation becomes blunted by constant familiarity. He may, indeed, by extending the range of his scrutiny to foreign countries, acquire a perception of peculiarities, of which he would otherwise be unconscious. On the other hand, an intelligent foreigner, visiting England, will discern a multitude of strange and anomalous customs, which do not, for a moment, arrest our own attention, because we are “to the manner born.” It must be from one or both of these sources, therefore, that a faithful picture can be derived of those national features, which really discriminate one country from another, and in the delineation of which is comprised so much of utility and amusement. It is, however, by comparison alone, that a correct estimate can be derived; and we shall, therefore, endeavour to blend the observations of the most judicious foreigners with our own, in giving a brief sketch of this interesting topic.

A variety of causes operate both simultaneously and successively, in the production of manners, customs, and character, and the effect must always be proportionate to the number, the strength, and the continuance of those causes. To investigate the nature and influence of even the most prominent among them would, however, be contrary to the design of the present work. A brief exhibition of their leading effects is all that can be attempted, and this, happily, is the most interesting and instructive part of the subject.

In their personal appearance, Englishmen are generally of a middle stature, well-formed, with regular features, and florid complexions, but less fair than the northern Germans, the Danes, or the Swedes. Englishmen are usually more robust and muscular than their continental neighbours on the opposite side of the channel, which has been ascribed to the influence of the climate, in conjunction with a liberal use of animal food and malt liquor. The English females are equally distinguished for their personal and mental charms. Their form, features, and complexion bestow upon them a degree of grace and beauty, which rivals the most elegant foreigners, while the peculiar modesty and neatness which pervade all their habits and actions, give them charms which are sought in vain among the fair of other nations. In the warmth, delicacy, and strength of their affections, the

permanency of their attachments, and the indefatigable discharge of every tender duty, they have no rivals. *Madame de Staël*, speaking of these qualities, cites Lady Russell, the wife of Lord Russell, who was beheaded in the reign of Charles II., as uniting in the highest degree, the strength and moral beauty of the English female character, and then observes ; “ Such again would a true English woman be if a scene so tragical, a trial so terrible, could be renewed in our days, and if, thanks to liberty, such calamities were not removed for ever. The duration of the sorrows caused by the loss of those we love, often absorbs, in England, the life of persons by whom they are felt. If women there have not personally active habits, they live so much more strongly in the objects of their attachment. The dead are not forgotten in that country, where the human soul possesses all its beauty ; and that honourable constancy which struggles with the instability of this world, exalts the feelings of the heart to the rank of things eternal.”

The natural proneness of the English to think before they speak, and their reluctance to enter into familiar converse with strangers, have subjected them to the charge of a reserved and phlegmatic character. The most recent and candid travellers, however, confess that this reserve exists more in appearance than reality ; and that it arises from habits of reflection, rather than mistrust or moroseness of disposition.

Upon this subject, the same animated author, in her work on the *French Revolution*, has the following remarks : “ It is difficult to give a thorough explanation of what in England is called shyness, that is, the embarrassment which confines to the bottom of the heart the expressions of natural benevolence ; for one often meets the coldest manners in persons who would show themselves most generous towards you if you stood in need of their aid. The English are as far from being at ease among each other, as with foreigners ; they do not speak till after having been introduced to each other ; familiarity becomes established only after long acquaintance. In England one scarcely ever sees the younger branches live after their marriage in the same house with their parents : home is the prevailing taste with the English, and this inclination has, perhaps, contributed to make them detest the political system which, in other countries, permits exile or arbitrary arrest. Each family has its separate dwelling ; and London consists of a vast number of houses, of small size, shut as close as boxes, and into which it is not much more easy to penetrate. There are not even many brothers or sisters who go to dine at each others houses without invitation. This formality does not render life very amusing ; and in the taste of the English for travelling, the motive is partly a desire to withdraw from the constraint of their customs, as well as the necessity of escaping from the fogs of their country.”

The following sketch is a summary of the English Manners, Customs, and Character, as they struck an intelligent foreigner nearly a century ago. The reader may exercise his ingenuity in tracing any points of resemblance between this picture and our actual character. “ The natives of England, taking them as they come out of the hands of heaven, or as nature formed them, are brave, generous, sincere, modest, lovers of freedom, averse to tyranny, devout, benevolent, compassionate, open-hearted, far from treachery or malice ; their judgments are sound, and they bring arts and sciences to the greatest perfection ; so that I must agree with *Misson*, a native of France (who resided here, and was well acquainted with the several nations of Europe) who says of the English, that they are active, robust, courageous, thoughtful, devout, lovers of the liberal arts, and as capable of the sciences as any people in the world ; and though they had their faults, he was satisfied, from several years experience, that the more strangers were acquainted

with the English, the more they would love and esteem them ; concluding his account of them in a kind of rapture, viz. ‘ What brave men do I know in England ! What moderation ! What generosity ! What uprightness of heart ! What piety and charity ! There are in England persons that may be truly called accomplished ; men who are wisdom and goodness itself ; if we may say so much of any thing besides God. Peace and prosperity be eternally to England.’

“ On the other hand it must be acknowledged, that the English are frequently passionate, melancholy, fickle, and unsteady ; one moment applauding what they detest the next ; and their good nature, for which they are so eminent, lays them open to a thousand misfortunes. They know not how to deny any thing they are pressed to do, though entirely against their judgment and inclinations. They are apt to look upon others as sincere and upright as themselves, which makes them by no means a match for those who are thoroughly versed in the art of tricking and evasion.

“ The nobility and gentry are too often instructed in their infancy, by those who have opportunity of making the first and most lasting impression upon them, that their blood distinguishes them from mortals of an inferior rank ; that they are in a manner of another species, and consequently have a right to treat the lower class of men with contempt and insolence. From some few instances of this kind, foreigners have applied the same character to the English as is given of the Portuguese, viz. ‘ That the nobility think themselves gods, and require a sort of adoration ; that the gentry aspire to equal them ; and the common people disdain to be thought inferior to either.

“ But the English nobility and gentry oftener miscarry through an excess of good-nature, than by their pride or vanity ; which is the rock on which the Portuguese split.

“ In the bloom of youth they are usually brought up to town, replenished with every thing that can give delight to the sons of men. Here they meet with many of their own class ready to initiate them into every vice and folly of the age ; and though they are naturally ever so well inclined, few have the resolution to resist the importunities of those who already make a part of the *beau monde*. To these they resign their understanding as well as their virtue ; wine, women, and play alternately employ their time.

“ The merchants and principal tradesmen, the yeomanry and large farmers, are for the most part a fair, honest, and industrious people ; and this part of the nation is certainly the happiest. Every man here, if he understood his true interest, would wish, with the wiseman in sacred Writ, ‘ That heaven would neither give him poverty nor riches ;’ for what is there desirable in life that these men want ? They have houses, horses, servants, &c. but no useless cares ; none that are unprofitable to themselves or the commonwealth : their time is employed in merchandize, trade, husbandry, or manufactures, that daily bring an increase of wealth to the kingdom, as well as to their own families ; they undergo no more labour or hardship than is conducive to their health, and to create them an appetite for their food ; and they have time enough to recreate and refresh themselves when the business of the day is over.

“ But the clergy of the church of England seem to be the most unhappy men that ever were dedicated to the priesthood. They have a multitude of professed enemies, as baptists, and dissenters of every denomination ; they are hated and reviled by men of no principles, who are not a small tribe in that land of liberty, and they have scarcely any respect paid them by the majority of their own communion, for reasons which I do not care to mention, that are not all of them peculiar to the English parochial clergy.

“ I proceed now to take a view of the lower class of people ; namely, inferior tradesmen, mechanics, cottagers, labourers, and servants. There are few countries where these men enjoy a greater share of freedom than they do here, yet too often behave themselves arrogantly and insolently towards their superiors. Many of them entertain a notion that the liberties and privileges of Englishmen entitle them to be saucy. In the city of London, and other populous trading towns, they generally get a good livelihood, eat and drink well, and on Sundays and holidays, when they are not engaged in business, appear very well clothed ; and, in their own phrase, look upon themselves to be as good as the best, that is, deserve to be treated with respect. Cottagers in the country are not altogether so insolent ; they have such poor wages, and depend so entirely on the gentlemen and farmers, that they are ready to pay their masters the respect that is due to them.

“ As to menial servants, they are become the general plague of the nation, both in town and country ; they are not to be corrected, or even spoken to, but they immediately threaten to leave their service, and are not ashamed to abuse those from whom they receive their bread, and, perhaps, lift up their hands against them.

“ The legislature has provided abundance of excellent laws for the maintenance of the poor, and manufactures sufficient to employ them all ; and yet, by indolent management, few nations are more burdened with them, there not being many countries where the poor are in a worse condition. And one great cause of their increase is, that a poor man, though he has constant work, does not earn more than four or five shillings a week, (except in London, and some other great trading towns,) which will barely purchase bread and cheese, and clothes for his family ; so that if he falls sick, or dies, his wife and children infallibly come to the parish for relief, which allows them a small pittance, or confines them in a work-house, so as just to keep them from starving, which drives the greatest number rather to seek their bread by begging.”—*Gonzales's Voyage to Great Britain*, in the Harleian Collection, Vol. I. p. 9.

To show the changes which time and circumstances have made in our national manners and character since the period (1730) when the above-mentioned foreigner visited England, we shall subjoin the following perspicuous sketch, lately drawn by the *Baroness de Staël*. The correctness of the description will, doubtless, be found proportionate to the talents, attainments, and opportunities of becoming familiarly acquainted with the subject possessed by the writer.

“ Among a people,” she observes, “ where every thing bears a decided aspect, as in England, contrasts are the more striking. Fashion has remarkable influence on the habits of life, and yet there is no nation in which one finds so many examples of what is called eccentricity, that is, a mode of life altogether original, and which makes no account of the opinion of others. The difference between the men who live under the controul of others, and those who live to themselves, is recognized every where ; but this opposition of character is rendered more conspicuous by the singular mixture of timidity and independence remarkable among the English. They do nothing by halves, and they pass all at once from a slavish adherence to the most minute usages, to the most complete indifference as to what the world may say of them. Yet the dread of ridicule is one of the principal causes of the coldness that prevails in English society : people are never accused of insipidity for keeping silence ; and as they do not require of you to animate the conversation, one is more impressed by the risks to which one exposes oneself by speaking, than by the awkwardness of silence. In the country, where people have the greatest attachment to the liberty of the press, and where they care the least for the attacks of the newspapers, the sarcasms of society are very much dreaded. Newspapers

are considered the volunteers of political parties, and, in this, as in other respects, the English are very fond of keeping up a conflict ; but slander and irony, when they take place in company, irritate highly the delicacy of the women and the pride of the men. This is the reason that people come as little forward as possible in the presence of others. Animation and grace necessarily lose greatly by this. In no country of the world have reserve and taciturnity ever, I believe, been carried so far as in certain societies in England ; and if one falls into such companies, it is easy to conceive how a disrelish of life may take possession of those who find themselves confined to them. But out of these frozen circles, what satisfaction of mind and heart may not be found in English society, when one is happily placed there ? The favour or dislike of ministers and the court are absolutely of no account in the relations of life ; and you would make an Englishman blush, were you to appear to think of the office which he holds, or the influence he may possess. A sentiment of pride always makes him think that these circumstances neither add to nor deduct in the slightest degree from his personal merit. You have not to dread those broils which, in other countries, fill life with disquietude. What you possess in point of connexion and friendship, you can lose only by your own fault, and you never have reason to doubt the expressions of benevolence addressed to you, for they will be surpassed by the actual performance, and consecrated by duration. Truth, above all, is one of the most distinguished qualities of the English character. The publicity that prevails in business, the discussions by which people arrive at the bottom of every thing, have doubtless contributed to this habit of strict truth, which cannot exist but in a country where dissimulation leads to nothing but the mortification of being exposed.

“ It has been much repeated on the Continent, that the English are unpolite, and a certain habit of independence, a great aversion to restraint, may have given rise to this opinion. But I know no politeness, no protection, so delicate as that of the English towards women in every circumstance of life. Is there a question of danger, of trouble, of a service to be rendered, there is nothing that they neglect to aid the weaker sex. From the seamen, who, amidst the storm, support your tottering steps, to English gentlemen of the highest rank, never does a woman find herself exposed to any difficulty whatever, without being supported ; and every where do we find that happy mixture which is characteristic of England, a republican austerity in domestic life, and a chivalrous spirit in the relations of society.

“ A quality not less amiable in the English is their disposition to enthusiasm. This people can see nothing remarkable without encouraging it by the most flattering praises. One acts then very rightly in going to England, in whatever state of misfortune one is placed, if conscious of possessing in one's-self any thing that is truly distinguished. But, if one arrives there, like most of the rich idlers of Europe, who travel to pass a carnival in Italy, and a spring in London, there is no country that more disappoints expectation ; and we shall certainly quit it without suspecting that we have seen the finest model of social order, and the only one which for a long time supported our hopes of human nature.”—*Ibid.*

With respect to the state of knowledge and religion among the English, and their effects on our national character, the same elegant and accomplished writer has the following observations.

“ In countries where the only pursuit is agriculture, the mass of the population may be composed of surfs attached to the soil, and devoid of all information. But what could be done with slavery and ignorance in a mercantile capacity ? A maritime and commercial country is, therefore, necessarily more enlightened than any other ; yet, there remains much to be done to give the English people a sufficient education.

“ We hear incessantly of the empire of rank and of wealth among the English ; but we must also acknowledge the admiration which is granted to real talents. It is possible that, among the lowest class of society, a peerage and a fortune produce more effect than the name of a great writer : this must be so ; but if the question regards the enjoyment of good company, and consequently of public opinion, I know of no country in the world where it is more advantageous to be a man of superiority. Not only every employment, every rank may be the recompence of talent ; but public esteem is expressed in so flattering a manner as to confer enjoyments more keenly felt than any other.

“ The emulation which such a prospect naturally excites is one of the principal causes of the incredible extent of information diffused in England. Were it possible to make a statistical report of knowledge, in no country should we find so great a proportion of persons conversant in the study of ancient languages, a study, unfortunately, too much neglected in France. Private libraries without number, collections of every kind, subscriptions in abundance for all literary undertakings, establishments for public education, exist in all directions, in every county, at the extremity as in the centre of the kingdom : in short, we find at each step altars erected to understanding, and these altars serve as a support to religion and virtue.

“ In what empire is Christianity more respected than in England ? Where are greater pains taken to propagate it ? Whence do missionaries proceed in so great numbers to every part of the world ? The society which has taken to itself to transmit copies of the bible into other countries, where the light of christianity is obscured, or not yet displayed, transmitted quantities of them into France during the war, and this care was not superfluous. But I should at present deviate from my subject, were I to enter here on what would constitute an apology for France in that respect.

“ The reformation placed the cultivation of knowledge among the English, in harmony with the feelings of religion. This has been of great advantage to that country ; and the high degree of piety of which individuals there are capable, leads always to austerity in morals, and scarcely ever to superstition. The particular sects of England, the most numerous of which is that of the Methodists, have no other view than the maintenance of the severe purity of christianity in the conduct of life. Their renunciation of pleasures of every kind, their persevering zeal in well doing, announce to mankind that there are in the gospel the germs of sentiments and of virtues still more fruitful than all those that we have seen displayed even to the present day, and the sacred flowers of which are, perhaps, destined for future generations.

“ In a religious country, also, good morals necessarily exist, and yet the passions of the English are very strong ; for it is a great error to believe them of a calm disposition, because they have habitually cold manners. No men are more impetuous in great things ; but they resemble the dogs sent by Porus to Alexander, which disdained to fight against any other adversary than the lion. The English abandon their apparent tranquillity, and give themselves up to extremes of all kinds. They go in quest of danger ; they wish to attempt extraordinary things ; they desire strong emotions. Activity of imagination, and the restraint of their habits, render such emotions necessary to them ; but these habits themselves are founded on a great respect for morality.”—*Ibid.*

The Customs, as well as the manners of England, have undergone considerable changes. Her ancient hospitality has been greatly diminished, though it still lingers, in the remote parts of the kingdom, around some of those venerable fabrics which constituted the glory of feudal times. Hunting, coursing, and horse-

racing are favourite diversions, while rowing and sailing are amusements peculiar to the English, and in perfect unison with their insulated situation and maritime character. The ringing of bells is also much practised, and has been brought to great perfection. A more refined and intellectual entertainment is sought in the charms of music, which is cultivated with great success. Many of the large towns in England, as well as the capital, have their oratorios and music meetings, together with assemblies and theatrical exhibitions.

The superior classes of the English maintain great simplicity in their dress, except on public occasions, when there is much of elegance, and even magnificence, displayed. The same characteristic neatness usually pervades their houses and equipages, which are seldom distinguished for useless pomp or parade. An enthusiastic love of independence, with a strong attachment to the enjoyments of domestic life, are distinguishing traits in the English character, and the servile deference shown by the lower classes to the higher in other countries, is neither paid nor expected in England.

The qualities which are most predominant in the British character, which expand her influence over so large a portion of the globe, and connect her so closely with the destinies of mankind, are her energy, her perseverance, her integrity, and her benevolence. A shrewd observer has remarked, "an Englishman, while he eats and drinks no more than another man, labours three times as many hours in the course of a year. His life is three common lives. People of other countries have some leisure hours : an Englishman has none. You may know him from all the rest of the world, by his head going before his feet, and by his pushing along as if going for a wager." The same writer also adds, that an American gentleman observed, when he first came to London, "all the people in the streets seemed as if they were going on an errand, and had been charged to make haste back." Nor is this incessant propensity to activity confined to any particular class of people. It is equally displayed in the garden of the labourer, the field of the farmer, the workshop of the artizan, the counting-house of the merchant, and the amusements of the gentleman. It is this active and enterprising spirit, impelled by a ceaseless desire to have, or do, something superior to others, that has given rise to those astonishing improvements in every branch of British industry. The intrepidity displayed in the chase, the swiftness of the race-horse, and the perfection of travelling, no less than the immense stores of the most ingenious and useful manufactures with which Britain supplies the rest of the world, are all striking examples of that incessant labour, and that creative faculty, which distinguish her from all other nations. It is the union of these noble qualities that has spread her commerce over every nation, and extended her empire into every quarter of the globe. The same union, in the late tremendous conflict, also gave victory to her fleets, conquest to her armies, and unprecedented splendour to her national character. Her integrity and benevolence are not less conspicuous than her bravery and independence. The one has carried her credit and commerce to an extent unparalleled in the history of nations, and the other has not only established many of the noblest institutions in Europe for the sons and daughters of affliction in her own island, but there is scarcely a people on the continent who, at some period or other, has not participated in its benign influence.

The undeviating application of this industry and perseverance to the production of comfort and utility is another distinguishing quality in the British character, which is well contrasted with the ingenious frivolity of our continental neighbours, in the following extract from the *Edinburgh Review*.

"The very exhibition of the products of French industry, for the present year, shows how little the comforts of the people have been attended to, in com-

parison with the luxuries of the great ; how little the spirit of solidity and utility has gained over the national taste for frivolous ingenuity ; and how much greater their wish still is, to dazzle than instruct. No body of British manufacturers, we are persuaded, would submit to be actors in such a theatrical pageant. The only exhibition about which an Englishman cares, is the diffusion of wealth and comfort in all its shapes ; and he measures it, not by its surface or its brilliancy, but by its depth and its solidity. He does not collect rare specimens into palaces, that princes may gaze at them ; he spreads out his every-day productions over the world, that men may imitate and enjoy them. The cottages and hamlets of the peasants, the neat mansions of the yeomanry, the larger habitations of the more wealthy, and all the gradations of dwellings up to the palace of the monarch, are the places where the products of British industry are to be found, not exhibited, but in use ; and where active comfort reigns in every due proportion. To a Frenchman, indeed, exhibition is the limit of ambition ; and the industry of which he can make a parade, is that which he will ever most value. Even while we look back—and forward—on the changes of empires and the overthrow of states, the rise of some upon the ruins of others, and the dread and interminable rotations of the wheel of fortune, we cannot but feel there are characters inscribed on the hearts of nations which fortune can never wholly erase. What has long been among multitudes has, for the most part, wisely been ; and it is allowing too little to habit, to say, that it is our second nature. It is more commonly the symbol of our *first* impulses, and our first feelings ; the expression of an original bias, no matter how or when impressed, but continued to our latest years. Of this kind is the industry of England, together with the habit of reflection, by which it has been matured ; not a result from any of the fortuitous events which chance has brought to light, and may again overwhelm in darkness ; but a deep and indestructible proclivity, more long and lasting than her power itself. The splendour of nations may pass away ; their wealth may be swallowed up in the vortex of revolutions ; and the strength of to-day may be weakness to-morrow. But their characters are not thus to be effaced, nor their genius to be extinguished. With the power of Greece, the characteristic vivacity of her intellect did not perish : and when the martial ardour of Rome, the last of all her virtues, which forsook her, had become the dream of past ages, another spirit of glory, more peaceful, though not less ambitious, took possession of her soul ; and the world beheld, with admiration, a successive sceptre in her hands. The seat of the useful arts, of those which mankind bless, and by which they are blessed, of those which the heart reveres, and the understanding approves, is Britain :—and should her armies be laid low,—should wars or tempests sweep her fleets from the ocean,—should even her Star of Liberty grow dim ; she may yet hold her empire over the mind, and maintain a place among the nations, by the united influence of sense, industry, and beneficence.”—*Vol. XXXII.*

Commerce, that great destroyer of ancient customs, has made considerably fewer inroads in the remote parts of the kingdom, particularly among the mountains of Wales, than in the more frequented and populous districts to which the preceding remarks chiefly apply. It is, therefore, in these secluded districts of the empire, that the habits and manners of life, the innocence and simplicity of character, and the native hospitality, which distinguished our forefathers, still linger. This has induced us to reserve a few observations on the manners and customs of the Welsh for this place, in preference to intermixing them with the preceding account.

The Welsh are, perhaps, a more unmixed race than any other people in Europe. They are generally short and stout limbed. The women have mostly

pretty, round faces, clear complexions, with dark, expressive eyes, and good teeth. The higher class dress like the English, but the lower universally preserve the national costume, which, both for men and women, is composed of home-made woollen cloth. The coat, small-clothes, and stockings of the men, are uniformly blue, and their waistcoats always red. Their shirts are made of blue or red flannel, except in some parts of South Wales, where they are striped. The common dress of the females is a dark brown or striped linsey-woolsey jacket and petticoat. The elderly women commonly envelope their heads in two or three coloured handkerchiefs, and wear large felt hats, which, with a scarlet whittle thrown across their shoulders, complete their dress. In the mountains of North Wales, instead of the whittle the women wear a large blue cloak, which descends nearly to the feet, and is worn at all seasons, even in the hottest weather. The jacket is made tight to the shape, and the young women bind both it and their petticoats with different colours. They also wear mob caps, pinned under the chin, and small round felt or beaver hats, like the men. Linen is seldom used, flannel being generally substituted in its place. Nor are shoes and stockings worn, except sometimes in fine weather. When going any distance, they are always carried in the hand, and put on when they arrive near the place of destination, the feet being first washed in a brook. This being their common dress, they never appear so ragged as the poor of other countries.

The women of the higher class are generally well informed and accomplished, of which they are often extremely vain. They possess great volubility of speech, with a considerable portion of satirical wit. The men pay much less attention to mental attainments. They are great sportsmen, and hospitable, but often much addicted to drinking, and so irritable, that small provocations have frequently occasioned quarrels between families that have not subsided for generations. Their great propensity to the law has often been observed; and there are few countries where attorneys are so numerous, or so much employed.

The women of the lower order are sober and industrious. They assist in tilling the ground, and manufacture clothing for themselves and families. To them belongs the whole process of spinning the wool, and knitting the yarn into stockings, or of dyeing and weaving it into cloth, flannel, or blankets. They are very tender mothers, and always take their children with them wherever they go. Their mode of carrying them is peculiar. A piece of woollen cloth, about three yards long, is thrown over the right shoulder, the child placed in it, on the left side, and the ends are fastened round the waist; thus leaving the right arm completely at liberty. The men, however, are less industrious than the women, and do not work either so many hours, or with so much energy as Englishmen. They are religious observers of the sabbath. The poorest cottager and his family, however numerous, are always clean and decent on that day.

The Welsh still retain many of their ancient superstitions, prejudices, and customs. Like all secluded people, upon whom the rays of civilization have shone with only a faint lustre, they are extremely credulous on many points which the more enlightened part of mankind regard as mere illusions. The idea of witchcraft still hovers among their mountains. Before the death of a friend or an acquaintance, they often fancy they see a blue light come from the house of the person and proceed towards the church; which they call a blue candle. On the eve of All Saints they kindle large fires near their houses, and dance round them, hand in hand, singing and shouting in the most frantic manner. The eve of St. John the Baptist, is distinguished by placing small branches of the plant called St. John's wort, over the doors and windows of their houses, to purify them, and drive away fiends and evil spirits. It was long the custom to resort to some sacred well, or

other place, over which a tutelar saint was supposed to preside, and there to perform certain ceremonies, for the purpose of obtaining some good, averting some evil, or avenging a real or imaginary injury. Most of these ridiculous notions and practices, however, have now become local, but others of a more useful or tender kind are still widely diffused over the principality. Among these are such as relate to marriages and funerals, or which mark their attachment to ancient religious usages, or their respect for the deceased.

When the day is fixed for the celebration of a wedding, the parties send to invite all their acquaintance, and the gentlemen's families in the neighbourhood, to attend on the occasion. For this purpose they either employ a man called a *bidder*, to go round the parish and make the request, or they send a printed invitation to each, usually expressed in the following words, "As _____ and _____ intend to enter into the holy state of matrimony on _____, the favour of your company is requested; and any donation you are pleased to bestow shall be returned upon the like occasion." On their return from church, they repair to their cottage, where a table is placed; at one end sits a man with a book, in which he enters the name and the sum each person gives; at the other the bride is seated with a basket of nosegays, one of which she presents to those who do not intend to receive any other return for their donation. It often happens that twenty or thirty pounds are collected in this way, to the great benefit of the newly-married pair. When it happens that the parties belong to different parishes, the man receives the donations in his parish, and the woman in hers. In some parts of South Wales the remains of a singular custom still exists, especially among the farmers, which strongly marks the barbarity of the feudal times in which it originated. As soon as the bride comes out of church, the *bride-man*, provided with one of the best horses he can procure for the occasion, immediately takes her behind him, and gallops away with the utmost speed, the husband and all the company pursuing him, at the risk of both man and horse. In this way, the pursuit is often continued for miles before the husband is allowed to rescue the bride from her possessor.

The customs, connected with their funerals, also deserve notice, though they are not precisely the same in all parts of the principality. They wake the dead nearly in the same manner as the Irish do; and, in some parts of South Wales, give a sprig of rosemary and half a pint of ale to *all* who choose to attend the funeral. When the corpse was brought out of the house, it was long customary, and is so yet in some parts of North Wales, for the nearest female relation to give, over the coffin, some white loaves, and sometimes a cheese, with a piece of money stuck in it, to some poor people; and then to present a cup of ale, and request the person to drink some of it immediately. After this, the company all kneeled down, and the clergyman, if present, or, in his absence, the clerk of the parish, said the Lord's prayer. They proceeded to the church, setting down the bier at each cross-road, as well as at the entrance of the church-yard, and repeating the Lord's prayer in the same manner. It is also usual, in many places, to sing psalms before the corpse, as they proceed to church; a practice which breaks the stillness of the solemn scene, in a manner highly calculated to dispose the mind to serious reflection. This, however, is not peculiar to Wales, as it is also practised in some parts of the north of England. The body is always carried by the nearest relations, which is considered as the highest respect that even filial piety can pay to the deceased. When the church is distant, the bearers are relieved by some of the company, but they always take the bier again before they enter the church-yard.

It is customary in many parts of the country for the relations of the deceased, and those who attend the funeral, to make an offering of money, as a mark of respect for the clergyman. Where this is the case, after that part of the burial

service which is usual in the church has been read, a psalm is sung, during which the nearest relation of the deceased comes forward with his offering, and deposits it on a small bracket provided for that purpose, near the altar, and is followed by the next of kin, and so on by the whole or most of the congregation. These offerings vary from sixpence to a guinea each, according to the ability and inclination of the giver. Collections of this kind have often been known to amount to ten or fifteen pounds; but when the relations of the deceased are in indigent circumstances, they seldom exceed a few shillings. In cases where the family are left in distress, the money thus collected is generally given to them by the clergyman. When the offerings are completed, the body is deposited in the grave, and the solemn service concluded.

In some places, the nearest female relative pays a person of the same sex, and nearly of the same age, with the deceased, for strewing and ornamenting the grave, for several weeks, with sprigs of box, yew, and other evergreens; and, in some instances, for weeding and adorning it on the eves of the great festivals during a year or two afterwards. Near the southern borders of the principality, the relatives adorn the graves of their deceased friends with flowers, and plant every sweet herb or shrub they can procure; in which manner they dress the grave every Saturday afternoon for a year. Thus is reared the weekly monument of pious affection, gratified in paying a repeated tribute of respect to a beloved object.

About three o'clock on the morning of Christmas-day, the inhabitants of many parishes assemble in their respective churches, and after the prayers and sermon are concluded, they continue singing psalms till daylight. Those who through age or infirmity are unable to attend at church, read the prayers and sing the appropriate psalms or hymns in their own houses. This act of devotion is called *plyguin*, "The crowing of the cock." It has been generally supposed by the superstitious of various countries that the spirits which were permitted to roam abroad during the dead of the night, instantly vanished on the crowing of the cock; but, at this holy season, that bird was supposed to exert his power during the whole night.

CHAPTER VII.

Antiquities and Curiosities of Nature and Art.

THE antiquities of a country are so intimately connected with the principal events of its history, and the various revolutions it has undergone, that they deserve a fuller description than can be attempted in this work. "Few objects are more interesting in the progress of civilization than man rising from his cave, or his hovel of clay and twigs, from habitations of less skilful construction than the chambers of the beaver, or the nest of the wren, and applying his strength and sagacity to architectural improvement." The antiquities of this country are of British, Roman, Saxon, Danish, and Norman origin.

The monuments ascribed to the ancient Britons, are chiefly circles of large unwrought stones, still existing in various parts of the kingdom, particularly that called Stonehenge, on Salisbury plain, in Wiltshire. These circular erections are by some persons supposed to have been places of worship belonging to the Druids, while others consider them as places of judgment, in the time of the Belgæ. Stonehenge, originally consisted of two large circles, and two ovals, all concentric with each other. The outer circle, which was about 97 feet in diameter, was composed of 30 vast pillars, 11 or 15 feet high, 6 or 7 broad, and 3 or 4 thick. On these were laid several great slabs, about 10 feet long, the ends of two resting on the same upright stone, and fitting on tenons made to receive them. Only 17 of the pillars of the outer circle, and 6 of the horizontal stones, or imposts, now remain. The number of stones originally belonging to the interior circle, was 29. These were about half the size of the others, but only nine of them are left, and it is not discernible, whether they had imposts or not. Of the inner oval two immense trilothons are still preserved, which are so called from being composed of three great stones placed like the lintel of a door. These are 16 or 17 feet high. There is also a large stone 22 feet high, with a tenon at top, but now in a reclining position. The whole structure at first comprised 140 of these immense stones, which appear to have been brought from a quarry 15 or 16 miles distant: but by what means they were conveyed to the place, or fixed in the positions they now occupy, is wholly unknown.

As ancient authors describe gloomy groves and spreading oaks as the only scenes of Druidical superstition, and as this monument is situated on a vast plain, where no vestige of such groves appears to have ever existed, it cannot, with propriety, be ascribed to the druids. Numerous monuments of the same kind are found in the northern parts of Germany, in Scandinavia, and even in Iceland, whose ancient writers call them *Domhring*, which is evidently *Doom-ring*, or circle of judgment. From this it has been inferred that they were solemn places, where the courts of justice were held, and the sentence pronounced on the criminal. The origin of these circles in Britain has, therefore, been ascribed to the Belgic colonies, and to a period when some progress had been made in agriculture, and the other arts connected with the dawn of civilization. The comparative magnificence of

Stonehenge eminently marks it as the supreme court of the nation, within whose circle the king and his chiefs assembled, while all the men capable of bearing arms were collected on the open plain without. The transverse stones, in that case, were most likely designed for the chiefs or heralds to ascend, to make known the resolutions of the council, to the surrounding people. This inference is strengthened by the circumstance that *Sarbiudunum*, the present *Old Sarum*, was the capital of the ruling Belgic colony in this kingdom. A large stone near the centre appears to have been the throne or seat of judgment; and another, placed towards the rising of the sun, and encompassed with a mound of earth, is supposed to have been the altar, on which human victims were sometimes sacrificed. Smaller circles are also found in various parts of Great Britain, particularly in the Isle of Anglesea, the last asylum of Druidical superstition, and were doubtless dedicated to the same purposes.

Mounds of earth are to be met with in several parts of the kingdom, either in barrows, sepulchral monuments for the dead, or as Moot-hills, on which the courts of justice were held after the circles, which had been polluted by pagan rites and human sacrifices, were abandoned.

The antiquities found in England, and ascribed to the Roman period, are chiefly altars, coins, inscriptions, military ways, and the remains of camps. The Roman roads extended through the whole of England, and afford a strong testimony of the civil as well as the military policy of these conquerors. One of these roads stretched from near Richborough in Kent, through London to Chester; another, called the Ermin-street, ran from London to Lincoln, and thence to Carlisle, from which place it passed into Scotland. The Foss-way led from Bath to meet the Ermin-street. Another road is supposed to have commenced at Norwich, and to have terminated in Dorsetshire.

But the most stupendous monument of Roman art in Great Britain was the wall of Severus, which began at the mouth of the Tyne, and ended at Solway Firth. This wall was at first composed of turf, and designed as a defence against the incursions of the Picts, who possessed the northern regions of the island; but it was afterwards built entirely of stone, with turrets at proper intervals, under the direction of Severus, from whom it derives its name. It was also accompanied by a ditch on the north side, and a military way on the south.

The remains of Saxon antiquities in England, are chiefly those of castles and churches. The oldest of the castles consist of a single tower, either of a square or hexagonal form. One of the rudest of these is Conings-burg Castle, in Yorkshire, and several churches are still met with, of which either all or a part of the architecture must be ascribed to that period.

Vestiges of Danish camps, stones with Runie inscriptions, and several castles which are supposed to have been built by the Danes, are still to be seen in the northern counties of England.

These are succeeded by what are termed Norman structures, from their having been erected subsequently to the Norman invasion, and which are more elaborate specimens of art than any of the preceding. These evince, that when man has attained a certain pitch of civilization and architectural improvement, "he proceeds in his laborious career, till he has piled up prodigious masses of materials, which seem to promise a duration as lasting as the soil on which they rest. Not content, however, with bulk and height of structure, which appear to have formed his earliest idea of architectural excellence, he next directs his attention to the harmonious and graceful arrangement of component parts: to the ascertainment of the most pleasing proportions; and he finally enriches his fabric with the varied embellishment of a toilsome and finished sculpture."

The castles belonging to this period are numerous and well known, and are distinguished by the solitary tower, or keep, enclosed with a double wall, and defended by turrets and ditches. Among the venerable and magnificent ecclesiastical edifices, are the Cathedrals of Durham and York, with Westminster Abbey. The Gothic, or pointed arch, is supposed to have been first introduced in the 13th century, and to have become general in the religious structures of the 14th. At this time also the windows became more broad and lofty, and were richly adorned with painted glass. The clustering columns in the interior were made more massy, rose to a greater height, and divided into various kinds of fret-work on the roof. The lofty spire likewise began to rise from the ancient tower, while pinnacles, and other exterior ornaments, were the invention of the same age.

Among the NATURAL CURIOSITIES of England, the wonders of the *Peak*, in Derbyshire, have always been the most celebrated. The Peak, however, is inferior to many other of the mountainous heights of the kingdom, particularly those of Wales, and the northern parts of the island. It is not only famed for its mineral productions, and general curiosities, but many of its rocks, chasms, and caverns, have a peculiarly striking appearance to the admirers of the romantic, and the votaries of curiosity. Among the objects which demand more than usual attention are, *Poole's Hole*, *Elden Hole*, the *Peak Cavern*, *Mam Tor*, the *Crystallized Cavern*, *St. Ann's Well*, and the *Ebbing and Flowing Well*.

Poole's Hole, about a mile west of Buxton, is a vast natural cavern formed in the limestone rock, and received its name, according to tradition, from an outlaw, who made it his abode, after being banished from the haunts of social life. The entrance is low, and the passage at first contracted; but it afterwards expands into a lofty and spacious cavern, adorned with transparent crystals, appended to the roof and sides. Some of these stalactical petrifications drop on the ground, and form themselves into a variety of fantastic shapes. One of these vast accumulations is called *Mary Queen of Scots' Pillar*, from a tradition of her having visited the cave, and reached this point, which divides the cavern into two parts. Having overcome the difficulties presented by this narrow passage, the cave again expands into a lofty vault, resembling the towering roof of a majestic cathedral, profusely adorned with stalactical ornaments. The cavern terminates about three hundred feet beyond Mary's pillar, and the whole length is nearly half a mile. Towards the further extremity of the cave, a fine spring of clear water gushes from the rock, and flows nearly through its whole length, its echo greatly adding to the astonishment and delight of the numerous visitors who penetrate into these dark abodes. The drops of water which percolate through the incumbent strata, and hang from the roof and sides, intermixed with the crystalized spar, which projects from all parts, reflect the rays of light, thrown on them by the torches of the guides, in the most brilliant and varied colours, and constitute a most splendid scene.

Elden Hole is a deep and singular chasm, opening in the side of a gentle hill, about a mile from the village of Peak Forest. The mouth of this frightful abyss opens horizontally from north to south, and in the shape of an irregular ellipse, the greatest length of which is about ninety feet, and the breadth nearly twenty-seven, in the widest part. Towards the northern end, shrubs and moss grow out of the crevices in the sides, to the depth of about forty feet. This fissure gradually contracts as it recedes from the surface, and, deviating from the vertical line, at the depth of about seventy feet, the descent is no longer visible; but on being fathomed is found to exceed two hundred feet. Mr. Lloyd, who descended into this chasm, and subsequently published an account of it in the Philosophical Transactions, describes several caves richly ornamented with stalactites, which open into this fissure many feet above the bottom. This abyss was also explored by two miners,

in search of some individuals who were supposed to have been murdered and thrown into it. The accounts, therefore, of its unfathomable depth, and the extreme impurity of its air, are mere fables.

Peak Cavern, in the vicinity of Castleton, is one of those singularly magnificent, sublime, and extraordinary productions of nature, which never fail to excite the admiration of every beholder. The scene which presents itself at its entrance is of the most imposing description. The rocks rise almost perpendicularly for nearly 300 feet; and meeting each other at the distance of about ninety feet, form a deep and gloomy recess, overhung by a vast canopy of rock. After passing this vestibule of the cave, the passage becomes confined. The light of day first diminishes, and is then wholly lost, when the enterprising spectator is furnished with a torch to illumine his further progress. Having proceeded about twenty yards in a stooping posture, he reaches a spacious opening, and arrives at the brink of the *First Water*, which is a small lake about forty feet long, but not more than two or three feet deep. This he crosses in a boat, gliding beneath a vault of rock, which, in some places, descends within less than two feet of the surface of the water. "We stood some time," says *St. Fond*, "on the brink of this lake; and the light of our dismal torches, which emitted a black smoke, reflecting our pale images from the bottom, we almost conceived a troop of spectres starting from an abyss to welcome us. The illusion was very striking."

Beyond this the cavern expands into another spacious vault, 220 feet long, 200 broad, and in some places 120 feet high. In the inner extremity, the stream which flows through the whole length of the cavern, widens into another pool, called the *Second Water*. Proceeding still further, another vast chasm, called the *Chancel*, and adorned with a profusion of petrified incrustations, is entered. Here the visitor is often unexpectedly greeted by a chorus, consisting of several women and children, ranged in the hollow of the rock, about fifty feet above the bottom of the cave. Other narrow passages and spacious cavities succeed, the whole terminating by there being only sufficient room for the stream to enter. The length of this cavern is 2250 feet, and its depth below the surface of the mountain about 620 feet.

The *Crystalized Cavern* is another stupendous natural phenomenon, more recently discovered than any of the preceding. *Mr. Hutchinson*, in his late tour in the High Peak, has given a perspicuous description of it. The entrance, he says, is rather terrific than grand. A sloping passage of about a quarter of a mile in length, and, in some places, not of sufficient height to allow a person to walk upright, leads into a space called the *Music Chamber*. Here the petrifications resemble the pipes of an organ, or, are arranged in small colonnades, formed with wonderful regularity. Candles, judiciously placed, have a kind of magical effect, impressing the mind with an idea of the imaginary palaces of fairies, sylphs, or genii, who have chosen this subterranean temple for their magnificent abode. A rugged descent of about a hundred yards further leads to the *Grotto of Paradise*, which is a beautiful crystalized cavern, the roof of which resembles a gothic arch, with an immense number of large stalactites suspended from the ceiling, that reflect the light of the candles so strongly as to give the idea of the place being illuminated with elegant glass chandeliers. This splendid scene is succeeded by other passages and grottos, one of which, from its enchanting beauty, is called the *Grotto of Calypso*. The resplendant beauties of the different crystalizations, and the reverberation of the echoes from side to side, assisted by a slight stretch of the imagination, may easily induce the visitor to fancy he has reached the secluded abode of some mythological deity. The whole length of the cavern exceeds two

thousand feet ; and, in splendid attractions, appears to surpass any other in the Peak.

The *Speedwell Level*, or *Navigation Mine*, which is also in the vicinity of Castleton, is another of these subterranean wonders, of the most terrific kind, in which art has combined with nature to heighten the effect. A flight of steps, beneath an arched vault, leads to the sough or level, where the adventurous traveller enters a boat, which being put in motion by pushing against pegs driven into the wall for that purpose, proceeds through various caverns for about 600 yards, when the level bursts at once into a tremendous gulf, the bottom, sides, and roof of which are all invisible. Across this gulf, however, the navigation has been carried by a strong arch, thrown over the fissure, where the projecting rocks approach nearest to each other. The attention is here directed to the dark abyss beneath ; and firm must be their nerves who can contemplate it without an involuntary shudder. All is vacuity and gloom to the depth of ninety feet. Then the Stygian pool commences, which is called the *bottomless* pit, and the depth of whose waters exceeds 300 feet. More than forty thousand tons of rubbish have been thrown into this pool, without any apparent diminution, either of its depth or extent. This fissure is supposed to be 800 feet below the surface of the mountain, but the elevation of its roof has not yet been ascertained, rockets having been fired to the height of 450 feet, but without rendering it visible. The effect of a Bengal light ascending in this stupendous cavity is truly magnificent.

Mam Tor, often called the *Shivering Mountain*, is a vast precipice, composed of a peculiar kind of slate, which soon crumbles in pieces on being exposed to the air. Those parts of it, therefore, that are the most easily dissolved are constantly wasting with the wind and rain, and leaving the more hard and massy portions standing in various grotesque shapes. These being ultimately disengaged from their foundations, descend into the valley with a rushing noise that is often heard at the distance of two miles. Other grand and stupendous rocks rise, and other caverns sink in various parts of the Peak scenery. Such are the *High Tor*, which majestically overlooks the beauties of Matlock Dale ; *Chee Tor*, rising perpendicularly 360 feet, on the bank of the Wye ; with Cumberland, Smedley, and Rutland Caverns, and the cave denominated *Thor's House*, in which the Druids are supposed to have offered up human sacrifices to Thor, the chief god of the ancient Saxons. The Moors, in Hope parish, in Derbyshire, also present a singular curiosity, as they are said to possess the property, in an extraordinary degree, of preserving animal substances that have been buried in them. Human bodies which have lain in their wet, mossy soil, have been preserved many years from decay.

St. Ann's Well, near Buxton, already mentioned in our account of that town, and the *Ebbing* and *Flowing Well* in the vicinity of Chapel-en-le-Frith, are also among the curiosities of the Peak. This is an opening at the foot of a mountain, about twenty feet square, but only two or three feet deep. The ebbings and flowings are irregular, and consequently the quantity of water discharged in any given time is subject to variation. Another remarkable well of this kind is found at the foot of a calcareous range of mountains near Settle, in Yorkshire ; and a third near Torbay, in which the waters rise and fall several times in an hour. The rivers *Manifold* and *Hamps* flow through subterraneous courses in this county, and again issue into day about twenty yards from each other, the *Manifold* having flowed five miles, and the *Hamps* seven, under ground. The first of these rivers is also two degrees warmer than the other at the spot where it bursts, with great force, from its subterraneous confinement. The *Aire* and the *Ribble* are also subterraneous rivers, the one flowing under ground for about one mile, and the other for three miles, in the north-west part of Yorkshire.

The mountains of this district likewise contain several extensive caverns, some of which deserve a brief notice. *Jordas Cave*, in Kingsdale, is about fifty yards in length, and presents a subterraneous cascade. *Wethercot Cave*, near Ingleton, in the same neighbourhood, is a great curiosity, being about sixty yards long and thirty wide, with a waterfall more than twenty yards in height. The river Wease pervades this cave, and another at Gatekirk, and runs about two miles underground. The base of the great mountain of Ingleborough is also perforated in numerous places.

The lake district of the north presents several cataracts worthy of notice, and various fables have been related respecting some deep pools in the county of Durham. The hills of Somersetshire and Shropshire contain several curious caves of natural formation; while those at Ryegate, in Surrey, and Blackheath, in Kent, may be ascribed to an artificial origin. In one of those caves in the Mendip hills, a number of human bones have been found incorporated with the lime-stone rock.

Some of the English lakes are often violently agitated without any apparent cause. We have already adverted to this peculiarity as connected with the Derwent-water; and there is a small lake on the side of a mountain, near Thirsk, in Yorkshire, and embosomed among rocks and trees, which is frequently agitated in the calmest weather. The remains of a sub-marine forest on the coast of Lincolnshire, is one of the most singular natural curiosities in the kingdom. Petrifying springs occur in several counties, among which, the dropping well at Knaresborough, and one near Lutterworth, in Leicestershire, are the most remarkable. The famous sulphur well at Wigan, in Lancashire; the bituminous spring at Pitchford, in Shropshire; and the bone well near Richard's Castle, in Herefordshire, also deserve notice. The water of the first of these springs is cold, but so strong a vapour of sulphur issues with the stream, that on applying a light to it, the surface of the water is immediately covered with a flame, like that of burning spirits.

Among the natural curiosities of the Cambrian mountains, *Pistil-y-Cayne* and *Pistil-y-Mouddach*, or the falls of the Cayne and the Mouddach, deserve particular notice. These are situated in Merionethshire. The fall of the Cayne, when viewed from below, the only point from which it can be seen with advantage, is very magnificent. A sheet of water is seen pouring down a rugged declivity 200 feet in perpendicular height. The sides of the fall are thickly mantled with woods, but the trees do not intervene to break the view of the cataract, which is therefore seen in all its extent. The agitated waters are received, at the bottom of their descent, into vast hollows of the rocks, which their perpetual action has excavated, and from which they boil and force their way to join those of the Mouddach, a little below. When the sun shines upon this fall, it is described as brilliant beyond conception.

The fall of the Mouddach is different from that of the Cayne. It consists of three distinct falls, all of which are submitted to the view at once. The first is about twenty feet wide, and nearly the same in height, falling into a deep pool of thirty feet in diameter. From this it glides over the second ledge, and descends by a fall of thirty feet into another basin of larger dimensions. It again descends by another fall of about twenty feet in perpendicular height, into the largest and deepest pool, over the brim of which it escapes, and descends foaming amidst a congeries of rocky crags to join the Cayne.

CHAPTER VIII.

Islands, Colonies, and Settlements.

IN describing the British Dependencies in Europe, we shall commence with the Islands nearest the English coast.

THE ISLE OF MAN.—This island is situated in the Irish sea, between Anglesea and the Mull of Galloway. It is about eight leagues from Cumberland, and six from Scotland. Its length, from north-east to south-west, is about thirty miles, and its greatest breadth nearly twelve, its shape being that of an oval, indented on the north-east by the sea. Its extremities consist of good pasture and arable land; but the central parts are elevated, rugged, and barren. The high mountain called *Snea Fell*, rises in the middle of the Island, 2000 feet above the level of the sea, and commands a view not only of the whole island, but of a vast expanse of ocean, with the four coasts of England, Ireland, Scotland, and Wales. The climate of this island is very mild, and frost and snow are generally of short duration; but the temperature of summer is scarcely sufficient to ripen the grain. Agriculture was much neglected till within the last half century, since which period it has been greatly improved. Industry has consequently increased: natural obstacles have been surmounted; and cultivation extended to more than half the island, whose surface embraces about 126,700 acres, supporting a population of nearly 30,000 individuals, besides yielding several articles of export. Its chief productions are the common kinds of grain, especially oats, with potatoes, and other vegetables. Flax is also grown in considerable quantities, part of which is consumed on the island, and the rest exported. Black cattle and sheep, particularly of the mountain breed, are reared, both of which are small and hardy. The wool of the latter is coarse, but the flesh is excellent.

The fisheries employ most of the inhabitants, and supply the chief article of their support. The boats engaged in the herring fishery exceed 400 in number, and are called, collectively, the Manks fleet, which is under the command of an admiral and vice-admiral, who are annually chosen for the season, and receive a small allowance from the government of the island. These boats seldom exceed eight tons burden, and with the whole of their out-fit cost about eighty guineas each. This fishery generally occupies four or five thousand of the male population, in whose absence, their wives and children attend to the labours of the field, particularly the culture of potatoes. The fishermen shoot their nets at night, one edge being buoyed up by inflated bladders, made of dried skins, and smeared over with tar. The herrings are caught in such numbers that a boat frequently returns with twenty-five or thirty thousand; and one successful night's fishing of the whole fleet, sometimes yields a produce of from three to five thousand pounds in value. A singular species of marine animal, called a battle-cock, partaking of the amphi-

bious nature and richness of the turtle, is found sticking to the rocks. An almost incredible number of sea-fowl, also, breed among the rocks, particularly in the Calf of Man, an island about three miles in circuit, separated from the southern promontory by a narrow channel, where nearly 5000 young puffins are annually taken.

The mineral products are copper, lead, and iron; but the lead mines only are worked. The island also yields marble, stone, and slate. The districts along the coasts are supplied with coals from Cumberland, furz and peat being the chief fuel of the interior. The names of the towns are Douglas, Castletown, Peel, and Ramsey. *Douglas*, situated on the banks of two small streams, on the southern shore, is the capital. The streets are irregular, but it contains some good houses, with a handsome chapel and a free-school. *Douglas* is also the chief port, and the residence of the principal merchants. The harbour is safe and spacious, admitting ships of large burden; and is defended by a strong fort. The population of *Douglas* is about 2630.

CASTLETOWN, situated at the bottom of a bay, near the southern extremity of the island, is a cheerful pleasant town, and the residence of the governor. It contains about 500 houses, which are, in general, well built. A creek divides the town, in the midst of which Castle Rushen rears its majestic form, overlooking the country for miles. This ancient edifice was built by a prince of the Danish line, and was considered impregnable before the invention of artillery. The walls are sufficiently thick to admit three persons abreast, and are surrounded by a moat and a glacis, which, having in a great measure withstood the ravages of time, present one of the most perfect specimens of the gloomy Gothic architecture. *Castletown* is the seat of the civil courts, and the chief garrison in the Island.

Ramsey is situated on the north-east, and *Peel*, the ecclesiastical metropolis, on the west, containing the cathedral, the Bishop's palace, and castle. In the first of these edifices the Bishops of Sodor and Man are installed by the Archbishop of York. *Peel* contains about 1600 inhabitants.

The principal manufactures of the island are woollen cloth, cottons, and worsted, with linen and sail-cloth. The *imports* consist of manufactured goods of almost every description, coals, wine, brandy, geneva, rum, and various other articles. The *exports* are coarse linens, sail-cloth, herrings, lead, fowls, butter, &c.; and the balance of trade is always against the island. The ships belonging to it in 1818, amounted to 348, carrying a burden of 8896 tons, and navigated by 2449 men and boys.

The *Isle of Man* was long held as a sovereignty under the crown, by the Earl of Derby, but it afterwards came by marriage into the family of the Dukes of Athol. Not being subject to the controul of the British Parliament, it became a resort for contraband traders, to the great injury of the revenue. The sovereign privileges were therefore purchased by Government; but the Duke still retains his landed estates in the island, with the appointment of the Bishop, subject to the King's approbation, and the nomination of the inferior Clergy. The inhabitants also retain their ancient legislature (the House of Keys), as well as their original laws and form of government. The lower classes are represented as gloomy, superstitious, and indolent; but not destitute of hospitality, though their principal food consists of herrings, potatoes, and oat-cakes. The Manks, like the Swiss and Highlanders, are strongly attached to their native vales and mountains; tenacious of their ancient customs; and jealous of their hereditary rights and privileges. Like the present Scandinavians also, especially the Swedes and Norwegians, they are sumptuous in the funerals of their deceased friends, and in the monuments erected to their memories.

The government of the island is vested in a Governor, council, Deemsters, and

Keys, and the concurrence of the whole is necessary for the establishment of any general law. The council consists of the Bishop, the Attorney-general, the Clerk of the Rolls, and the two Deemsters, who, together, form a kind of upper house. The deemsters are officers of great authority and the chief judges of the island, holding their courts for the administration of justice, the one in the northern, and the other in the southern port. The Keys, anciently denominated the worthiest men in the island, are 24 in number, and are chosen from the six divisions, or hundreds, into which the island is divided. They form the deliberative assembly of the state, and the bills passed by them are submitted to the governor and council for their approbation, which stamps them with the character of laws till annulled by his Majesty's commands, notified by the secretary for the Home Department. These different states assemble periodically on a hill called *Tinwald*, which, in the Scandinavian language, implies a walled court of justice. There the acts passed in the intervals between these meetings are publicly read to the surrounding people, which is considered as a legal promulgation, and renders them binding upon all. From this circumstance they are called laws of *Tinwald*.

SCILLY ISLANDS.—These islands, situated about 30 miles west of the Land's-End, form a numerous group. Five or six of them are inhabited by a population of nearly 1200 people, who chiefly subsist by fishing, burning kelp, and acting as pilots. About 2000 acres are in a state of cultivation, and the principal products are sheep, rabbits, a few small horses, cattle, poultry, and vegetables. The small vessels belonging to these islands, and employed in the fishery, or as pilot-boats, &c., amount to about 300 tons. The chief islands of the group are St. Mary's, St. Agnes, Treseo, St. Martin, and Bryor. St. Mary's, three miles long, and two broad, is the best cultivated, and the most populous, containing about 700 inhabitants. This island has also a good harbour, and is well fortified. On the island of St. Agnes is a lighthouse, consisting of a very fine column, more than 50 feet high, which serves as a guide to ships entering either the English or the Bristol channel. It is often of great importance to navigators, by enabling them to avoid those dangerous rocks, particularly when coming from the west, as they are there frequently carried to the eastward of their reckoning by the currents of the Atlantic. The remainder of these islands are merely barren rocks.

ISLE-OF WIGHT.—This beautiful little island belongs to Hampshire, and is separated from the main land by a channel, varying from two to seven miles in width. Its shape is that of an irregular lozenge, measuring about 22 miles from east to west, 13 from north to south, and 60 in circumference. The island contains about 100,000 acres, nearly 75,000 of which are in a state of tillage, and 20,000 in pasturage. The diversity that adorns the surface, and the fertility which enriches it, have caused the Isle of Wight to be denominated the *Garden of England*. The produce of grain is equal to eight or ten times the quantity consumed on the island. The Downs, or upland districts, stretching from east to west, afford pasturage for about 40,000 fine-woolled sheep, which supply the London markets annually with a great number of lambs. The part of the island north of this central ridge, is chiefly dedicated to pasture, and the south to tillage, which produces abundant crops of wheat and fine barley.

The Isle of Wight has long been a fashionable resort for summer visitors, both on account of its salubrious atmosphere, and its rural beauties. The craggy, and cavernous rocks by which it is almost surrounded, form a natural fortification, and present, especially on the south side, an impregnable rampart to an invading foe. There is only one spot which nature has not defended, and there an artificial protection is erected. The principal river is the *Medina*, which rises near the southern shore, and flowing northwards, enters the sea at Cowes, after nearly dividing the

island into two parts. A second stream also falls into the sea at St. Helen's, and others discharge themselves into New-Town harbour.

The chief vegetable products of this island are wheat, barley, oats, peas, and beans. The cattle are principally of the Alderney and Devonshire breeds. The horses are large, and generally black. The pigs are also of a large kind, and game is plentiful. The surrounding seas yield the species of fish common to the English coasts, of which the crabs and lobsters are particularly large and well flavoured. Among the fossil products, are pipe-clay, fullers'-earth, and the fine sand used in making glass, with red and yellow ochre, all of which are included in its list of exports. This island was the principal depôt for the foreign troops in British pay, during the late war. The population, at the last census, was 24,120. The chief towns are Newport, West-Cowes, Yarmouth, and St. Helen's.

Newport, the capital, is situated on the Medina, near the centre of the island, and about seven miles south of Cowes. This is esteemed one of the pleasantest towns in the kingdom, and consists of three parallel streets, intersected by three others forming squares where they unite. The houses are neat, and many of them well built. The only manufactures carried on by the inhabitants of Newport, who amount to about 3840, are those of starch, hair-powder, and biscuit for shipping. Extensive barracks, and a military hospital, were built near Newport during the late war. *Carysbrook Castle*, formerly the most important fortress in the island, and celebrated for the imprisonment of Charles I. by the parliament, is situated near this town, and is now chiefly occupied by the governor.

West Cowes, pleasantly situated on the side of a hill, at the mouth of the Medina, has a safe and convenient harbour, and contains a population of about 2660 persons, with a considerable trade, but no manufactures. It is also well adapted for ship building, and several ships of the line have been launched here. Many handsome houses have been erected at Cowes, for the accommodation of the numerous visitors who resort to it for sea-bathing.

The borough of Yarmouth is merely a fishing village, containing between four and five hundred inhabitants. *St. Helen's*, near the eastern extremity of the island, on the bay of that name, possesses about 600 inhabitants, and carries on a lucrative trade in supplying necessities to the shipping which anchor in the road. Near St. Helen's is Sandown Fort, erected for the defence of the bay from which it takes its name. This is the only assailable point of the island.

GUERNSEY.—This, and the three following islands, are situated off the coast of Normandy, in the bay between Cape la Hogue and the western promontory of France. They have been annexed to the British crown ever since the Norman conquest, though it has been the constant policy and endeavour of France to detach them from this dependance. Guernsey lies near the north-east entrance of this bay, and is of a triangular shape, the longest side being about ten miles, and the circuit nearly 40. It contains a surface of about 37,440 acres, and a population of 20,000 individuals. The south coast, and part of the east, are one continued rock, or cliff, rising about 270 feet almost perpendicularly above the level of the sea. Nearly the whole coast is indented by small bays and harbours. The surface is generally hilly, the air salubrious, and the soil in many places fertile; but agriculture is neglected for the pursuits of trade and commerce, which engross the chief attention of the inhabitants. Gardens and orchards are numerous, and the principal beverage is cider. The island, however, produces grain sufficient for its own consumption, besides supplying pasture for numerous herds of cattle of an excellent breed, and which are particularly distinguished for the richness of their milk. The native horses are small and poor.

This, and the adjacent islands, are all governed by their own laws, and only the

regulations of commerce are under the controul of the British legislature. They raise the money necessary for defraying the expense of their civil government, and are therefore mere appendages to the crown. The king's revenue arises chiefly from tithes of corn, the sale of certain lands, fines and amercements of the court, and other sources. The whole does not much exceed £2000 a year. During war a great number of troops are necessary for its defence.

There is only one town in Guernsey, *St. Pierre*, or *St. Peter's Port*; but there are several villages. The town of *St. Pierre* is situated on the east coast, and has a good harbour. The streets are narrow and inconvenient, though many improvements have lately been made. The harbour is formed by a handsome pier of 1217 feet in length. A good trade is carried on here, especially in wines, those of Portugal being frequently brought to Guernsey to be mixed with a lighter kind from the adjacent parts of the continent. The commerce of this port has decreased since the vigilance of the British government has checked the smuggling trade which was carried on here to a great extent. The number of ships belonging to the island in 1818, was 65, carrying 7776 tons, and navigated by 510 sailors. The exports of the island have been estimated at £180,000; and the imports at £160,000. The population of the parish, which includes the town and the adjacent parts of the country, amounts to about 11,000 individuals.

Such of the inhabitants as are not engaged in trade, live in a very rural manner, chiefly dispersed over the country in detached houses. The old Norman French is the common dialect, and the inhabitants have more resemblance to the French in every respect than to the English. The farm-houses are in general built upon a contracted scale, and the cottages of the peasants are mean. One singularity in these dwellings deserves notice. In one corner of the common room, is what the inhabitants call a green bed, raised about eighteen inches above the floor, and covered with dry fern, on which they often recline. The people of Guernsey still retain many absurd superstitions, and are extremely punctilious respecting the different classes or gradations of rank.

JERSEY.—Jersey, about five leagues south of Guernsey, and six from the French coast, is an irregular island of an oblong shape, and much indented by the sea. Its length is nearly twelve miles, and its breadth about six. On the northern shore the cliffs rise to the height of forty or fifty fathoms, but the south coast is nearly level with the sea. Its area is about 50,000 acres, and its population nearly 22,000 persons. The central parts of the island are diversified by hill and valley, and so thickly planted with apple-trees as to resemble a forest. The climate is mild and healthy; well adapted to the production of apples, from which 25,000 hogsheads of cider are sometimes made in one season. The land is generally brought into a state of cultivation, and large flocks of sheep are kept, whose wool is made into stockings and caps. The inhabitants of Jersey are much engaged in trade, and more than twenty ships sail annually to Newfoundland, whose united burden, including those to other parts, makes a total of about 6000 tons. Jersey exports a great number of knit stockings, several thousand pairs of which are made weekly. The other exports are small cattle, cider, butter, &c. The trade is chiefly carried on with the Isle of Man, the West Indies, Gibraltar, and the Mediterranean, but still more extensively with Great Britain. The total value of these exports is estimated at £140,000; and the imports at £128,000. The number of ships belonging to the island in 1818, was 85, and their burden 8967 tons. The chief officer in Jersey is a governor, who has the command of the military, the castle, and the garrison. The laws and civil magistracy resemble those of Guernsey, and there is sometimes an assembly of the states. The language is chiefly French. The two towns are *St. Helier* and *St. Aubin*.

St. Helier, the capital, stands on a plain on the south side of the island, and is

protected on the north by a ridge of hills. The harbour is spacious, but rendered difficult of access by rocks, shoals, and currents. St. Helier contains some good houses. The town and harbour are defended by a strong castle; which is also the residence of the governor. The court-house is a stately edifice, standing in the middle of the town. The corn-market is also a handsome building, with piazzas supported by pillars of the Tuscan order. The population is about 3000; and several trades and manufactures, with a good commerce, are carried on there.

St. Aubin is situated on the west side of the bay of that name, and about four miles from St. Helier. It has a good harbour, formed by a strong pier, similar to that at the capital of Guernsey, and terminated by a battery. This town, which is well built, forms an agreeable place of residence, and is much frequented by merchants and families, who resort thither from motives of economy.

THE ISLE OF ALDERNEY.—This is a small island off the coast of Normandy, about seven miles west of Cape la Hogue, and eighteen north-east of Guernsey. It is four miles long, and one broad, and nearly surrounded by rocks, which impart a barren aspect. About half the surface, however, is cultivated, yielding good crops of grain, which more than supply the wants of the inhabitants. The cows bred on this island are much esteemed for the quantity and richness of their milk, and a great number are annually sent to England. The land is elevated, the air remarkably pure, and the number of inhabitants about 1300. *La Ville*, near the centre of the island, is the only town, and in which most of the inhabitants reside. The exports have been estimated at £60,000, and the imports at £54,000. A chain of rocks runs from Alderney to the west, called the Caskets, on which Henry, Duke of Normandy, son of Henry I. with several of his nobility, perished in 1119. The same rocks also proved fatal to the *Victory* of 110 guns, and her whole crew, in 1744.

THE ISLE OF SARK.—The island of SARK is about five miles from the south-east angle of Guernsey, on which it is dependant. It is three miles long, and one broad, and joined by a narrow isthmus to another island of inferior dimensions. This small island rises abruptly from the sea, is surrounded by steep rocks, and can only be approached in one part with safety. The air is serene and pure, and the climate healthy. The surface presents an area of about 2000 acres, which yields sufficient grain for the population, consisting of about 300 individuals, who are chiefly employed in agriculture, knitting stockings, gloves, and sailors' jackets, which are disposed of in the market of St. Pierre. Dr. Colquhoun estimates the exports at £20,000, and the imports at £18,000. Sark is also distinguished for wild-fowl and rabbits, with which it abounds.

THE ISLES OF MALTA AND GOZO.—The island of MALTA, and its appendage, Gozo, now form a part of the British European possessions, and derive their importance from their geographical situation rather than their intrinsic value. "The war of the French revolution, the occupation of the Italian ports by the enemy, and, above all, the invasion of Egypt by a formidable fleet and army from France, rendered it a great desideratum on the part of this country, to obtain possession of Malta, which had been previously wrested from its lawful Sovereign, (the Grand Master of the Order of St. John of Jerusalem, since called the Knights of Malta) by the revolutionary government in 1799, thereby becoming a powerful engine in the hands of a dangerous enemy." The efforts which were made, both to defend, and to obtain possession of this little spot, were very strenuous, but after a long blockade, it was finally captured, by his majesty's naval and military forces, on the 5th of September, 1800. The treaty of peace concluded in the autumn of 1802, stipulated for the cession of this rock to its ancient sovereigns, but the obstacles which subsequently prevented the fulfilment of this stipulation, having occasioned a

renewal of the war, Malta was retained, and the late peace annexed it, as a permanent possession, to the British crown. England has thus obtained a most important station for her naval force, and a good depôt for her merchandize, in the Mediterranean, which will prove particularly valuable in the event of a war with any of the nations of southern Europe.

Malta is about twenty miles long, and from six to ten broad, containing an area of between eighty and ninety thousand acres. It is situated in the 36th degree of north latitude, and the 15th of east longitude, about 19 leagues south of Sicily, and 50 from the nearest coast of Africa. Gozo lies north-west of Malta, from which it is separated by a narrow channel, but sufficiently deep to admit the largest ships of war with perfect safety. The whole surface of this island is less than twenty square miles ; but it is very populous.

Malta is a complete rock, covered with a thin light soil. All the southern, and most of the other parts of the coast, are high and precipitous, which renders the island nearly inaccessible. Every creek that will admit a boat is in a state of defence, and strongly guarded by forts and batteries. A chain of towers, about a mile and a half from each other, also maintains an immediate communication along the accessible parts. The surface of Malta is undulating, but it no where rises into mountains. The soil in many places is very shallow, though where there is sufficient depth to support the powers of vegetation, it is abundantly productive. The industry of man has supplied the penury of nature ; and earth, collected from the vallies, or brought from Sicily, is deposited upon the sterile substratum. Numerous stone walls have been raised four or five feet high, to support this artificial soil, on the sloping rocks ; behind which, terraces rise in succession to the top of the declivity, varying in breadth according to the steepness of the ascent. Malta, therefore, appears very different as seen from a valley, or viewed from an eminence. In the first case, the bare walls present a barren aspect, partially relieved by the intervening deep green of the locusta, or the lighter tint of the orange and other fruit-trees. But when seen from above, a more pleasing and fertile scene is exhibited ; few of the walls appear, and varying foliage and ripening fruits afford a lively contrast with fields of corn, separated by intervening streaks of meadow. The landscape of Gozo is more pleasing than that of Malta, the trees being more numerous, and of a larger growth. It has also many excellent springs, and almost the whole is in a state of cultivation.

The climate of Malta is hot and dry, Fahrenheit's thermometer sometimes rising to 100 degrees, but the common summer temperature seldom exceeds 88 degrees, while that of winter is rarely less than 52 degrees. The hot winds from Africa, and the sorocco of Italy, are often nearly insupportable. As the sea breezes, however, are uninterrupted by mountains, they cool and refresh the atmosphere morning and evening. The winters are so mild as to render the climate congenial to numerous vegetable tribes of the tropical regions, and the month of January displays the beauties, and breathes the balmy softness, of an English May.

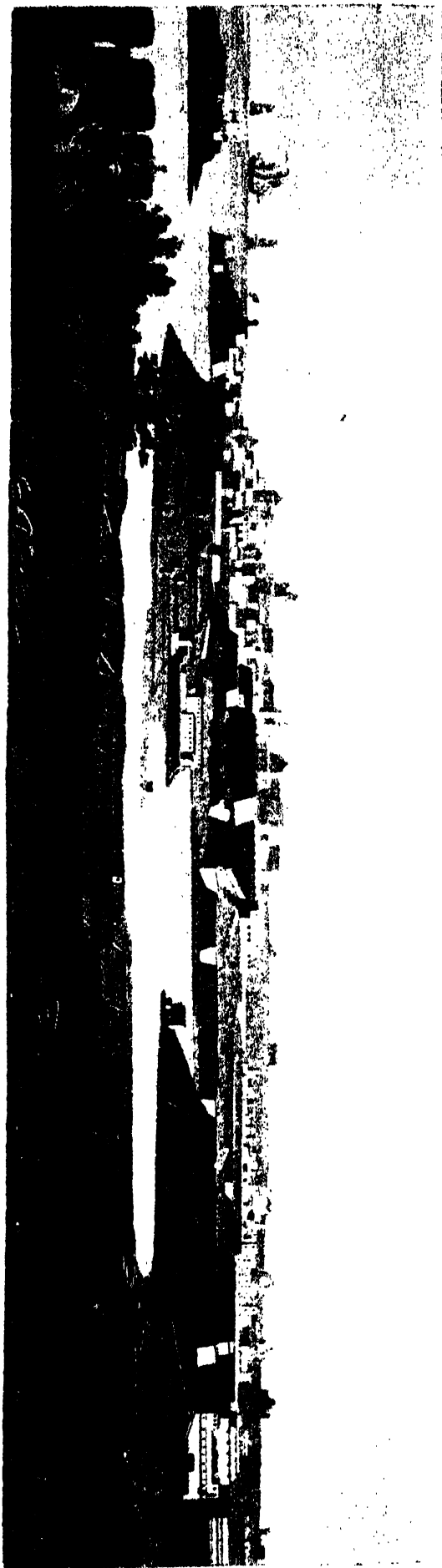
Where tillage is practised, crops succeed each other almost without intermission. Both grain and fruit, indeed, are generally gathered twice a year. Cotton is the staple product of the island, to the culture of which the inhabitants direct their principal attention, from the great profit it yields. Malta also furnishes cummin and anise, with lichens, from which a purple dye is extracted, and kali magnum, both as food for cattle, and to burn for barilla.

"Vegetables are plentiful and excellent ; fruit of all kinds, from the sweet locust of St. John, a native of Africa, to pears and plums, are delicious ; the oranges, in particular, are very large and fine. The different flowers exhale a fragrance unexampled in other countries. Abundance of aromatic herbs furnish

a luxuriant harvest to bees, whose honey is of exquisite flavour. The trees are but small, and the culture of them is confined to such as bear fruit. Springs are numerous, the island comprising not less than 80 fountains, continually flowing, and in winter so copiously, that the greater part of the water is suffered to run into the sea. Beef, veal, pork, and lamb, are all good, and game is abundant; sheep are prolific, the ewes having two or three at a time, twice or thrice a year; several birds visit this island, and fish is caught in great abundance off the coasts. Malta has a beautiful race of dogs peculiar to itself, and much esteemed throughout Europe." *Recherches Historiques et Politiques sur Malte.*

M. Boisgelin, one of the knights of Malta, estimated the population of the island, in 1798, at 90,000. From the census taken in 1803, subsequently to the conquest by the English, it was found to contain only about 80,000; but since that period, it has greatly increased, and the population is now stated at 115,000, while that of Gozo amounts to 13,000. The inhabitants of both these islands having sprung from one common source, are marked by the same appearance and traits of character. "They are a mixed breed of Syrians, Arabs, and Europeans, as is not only to be inferred from the history of the island, but also from the physiognomy of the people. The characteristics of the nations whence they descended, are perceptible in the manners and genius of the Maltese. Of the middle stature and swarthy; they are industrious, and equally addicted to trade and navigation with their Phœnician ancestors; are active, sober, brave, and hospitable, as the sons of Ishmael; and, like them, rigid observers of their word and engagements; at the same time they possess the liveliness and love of pleasure of the Italians. The common people retain many Phœnician words in their language, the basis of which is Italian; but in the city a pure Italian is spoken. The females, beneath a scorching sun, preserve the fairness of the more northern climes, combined with the sparkling dark eyes, and animated countenances, of the ladies of the east. Like them, they are exempt from all laborious occupations; and when uncorrupted by the taint of the city, their conduct is exemplary. The lower class of men wear a berretta, or cap, of a black or red colour, a checked shirt, commonly rolled up to the elbows, a coarse cotton waistcoat, and trowsers ornamented with a set of globular silver buttons, and a girdle of various colours, girt round the loins; their feet are either bare, or protected by a rude species of sandal. In the cold season, they put on a *grego*, or shaggy great coat, which has a hood. A superior rank about the port, wear an English dress, but are distinguishable not only by their dingy countenances, but also by their broad cocked hats, and the large silver buckles in their shoes."—*Sketches of Malta.*

When Malta was under the government of the Grand Master, its trade and industry were very confined. Nor were they much enlarged during the period it was possessed by the French. Since it has been occupied by the English, it has become an emporium, whence the regions around the Mediterranean and the Black Sea, are supplied with British manufactures and colonial produce. The productions of these countries are collected in return, and transmitted to the ports of Britain. By this means the trade, navigation, and general prosperity of Malta have been greatly improved. Besides the import and export of foreign merchandize, large quantities of grain are requisite for the support of the inhabitants, and these are usually paid for in cotton, either in its raw state, or manufactured into caps, fine stockings, gloves, or counterpanes. The coral fishery is another source of industry, as well as the common fishery in the adjacent seas, and the extraction of salt from sea water, for the purpose of curing the fish. In short, whether regarded as sailors, agriculturists, fishermen, manufacturers, or merchants, the Maltese deserve the title of the most industrious people of the Mediterranean. The vessels employed by them



Spencer from the North

in their intercourse with the different ports of that sea, are small, and have altogether been estimated at a burden of 4000 tons. The value of the exports is estimated by *Dr. Colquhoun* at £2,500,000, and the imports at £2,800,000. An act passed in June, 1817, allowing the merchants of Malta and Gibraltar to trade within the limits of the Honourable East India Company's Charter, except in the dominions of the Emperor of China. By this act, therefore, Malta and its dependencies are supposed to be in Europe. The improved state of the island, with respect to commercial advantages, since it has been in possession of the English, cannot be more clearly or explicitly stated, than in the words of its own magistrates. "Most of the town's-people, who used to wear caps, now have hats; those who I remember walking, now ride; such as had formerly an ass or a mule, now keep their calesses, (the carriage of the country) and all this within the course of the five or six years that the English have been here. On the contrary, the French not only put an end to all our trade, but broke up our very fishing-boats for firewood."—*Sketches of Malta*.

The Maltese being chiefly employed either in procuring the means of support, or in endeavouring to realize a fortune as merchants, pay little attention to the pursuits of literature, of arts, or of science. Yet they possess a large and valuable public library, which contains some rare Arabic manuscripts. They have also a museum, and many of them understand music.

The capital of Malta is LA VALETTE, situated on a narrow neck of land, comprised between two excellent harbours on the north-east of the island. This city was built by the Grand Master, *John Frederick La Valette*, in 1566, from whom it took its name. The houses are lofty and many of them handsome, and built of white stone from the rock on which they stand; but the streets are made narrow to procure a shade from the sun. The most remarkable building is the Cathedral of St. John, richly ornamented within, with tapestry and paintings of great value, especially an inimitable representation of the beheading of St. John, by Michael Angelo, which gained him admission into the order of Malta. The treasury of this Cathedral was very rich previously to the occupation of the island by the French. The palace of the Grand Master, the Public Library of the Order, the Hall of Justice, formerly a college belonging to the Jesuits, and the barracks, are all good buildings. La Valette is the See of a Bishop, suffragan to Palermo, in Sicily. It also contains several Churches and Convents, a General Hospital, and a peculiar building; formerly designed as a prison for Turkish slaves. The population of the city is about 4000. Malta also contains about 30 other towns, with several villages. The principal of these towns is CITTA VECCHIA, a few miles south-west of La Valette, and once the capital of the island. It is said to have been built by the Phœnicians before they founded Carthage. It was called by them Melita, the ancient name of the island; by the Saracens, Medina; but Alphonso, king of Sicily, in 1428, gave it the name of *Citta Notabile*. It has been much contracted from its former dimensions, and now has some resemblance to a large fortress. It contains a handsome Cathedral, and an antique, Palace for the Grand Master, with other buildings not worthy of attention. Here are also some ancient catacombs; and near the town is a very extensive cave, not far from the mouth of which, St. Paul was shipwrecked, when bound a prisoner to Rome.—About two-thirds of the whole population of the island reside in the towns. The view of *La Valette* affords a good idea of the situation and appearance of that city.

GIBRALTAR.—The celebrated fortress and town of GIBRALTAR, though situated at the southern extremity of Spain, have now been in possession of the English for more than a century; and all the efforts of the Spaniards to regain them have been in vain. This impregnable fortress occupies the extremity of a small promontory, and

being connected with the main land by a flat narrow isthmus, the town and garrison are almost insulated. The whole circumference of the rock is about seven miles and a half, and its perpendicular height about 450 yards. It is completely covered with batteries at every point; and there is scarcely a single projection of the rock, wide enough to admit of a cannon, which is not provided with one. Towards Spain, they rise tier above tier. Many of these batteries are cut out of the solid rock, and to such extent have these excavations been carried, that they are now sufficient to contain the whole garrison, which, in time of war, is seldom less than 5000 men. The rock also contains several natural caverns, adorned with columns of crystalized stalactites. The town is large and well built, standing on the west side of the rock, completely under the protection of the batteries. The houses are all painted black, which gives it a sombre appearance, but it is well lighted at night. The town and garrison are supplied with water, by a number of magnificent reservoirs, capable of holding 40,000 tons. These are bomb-proof, and receive all the water that flows from the side of the mountain. The town occupies an extent of about 1200 yards, and near the south gate is a square, surrounded with trees, in which there is space sufficient for 600 men to exercise. Between the fortress and the small Spanish town of San Roque, a space, called the neutral ground, is used as a promenade. In time of peace, however, the inhabitants recreate themselves by making small parties of pleasure, and proceeding into Spain as far as San Roque, Algesiras, &c.

The population of Gibraltar has been stated at 10,000, exclusively of the garrison, and two or three thousand occasional residents, who sleep within the walls every night. During the late war, Gibraltar became a general mart for all kinds of merchandize, and ships resorted thither for the purpose of supplying the ports of Africa and the Mediterranean. The vessels belonging to the town itself, have been stated at an aggregate burden of 3000 tons. The Americans also imported large quantities of tobacco, sugar, coffee, and East India goods, and took in return money, wine, brandy, &c. The annual value of the exports is estimated at £2,000,000; and of the imports at 2,200,000.

The local situation of Gibraltar renders it of the utmost importance to this country. The possession of such a fortress within the natural confines of the Spanish monarchy, commanding, in a great measure, the entrance of the Mediterranean, and affording a place of refit and refreshment for British ships entering that sea, is not only peculiarly advantageous to the naval and commercial interests of Britain, but elevates the power of this country in the view of all the other states of Europe.

The plate annexed to the account of the kingdom of Spain, gives a good representation of this singular and important rock.

HELIGOLAND.—This small island, or rather barren rock, is situated in the German ocean, nearly opposite the mouth of the Elbe; and about twenty miles from the coasts of Jutland and Germany. When the French took possession of Bremen and Hamburg, in 1807, HELIGOLAND was captured from the Danes, and occupied by a British force, as a depôt for our manufactures and colonial produce, from which the adjacent parts of the continent were supplied, and the projects of the French ruler, in a great measure, frustrated. During several years, British merchandize found a ready sale on this barren spot, which contains neither trees nor vegetation, except what is barely sufficient for the support of a few sheep and goats. Heligoland is inhabited by about 200 Danish fishermen, besides the English garrison, and the merchants who resort thither for the sake of trade. By the late treaty of peace, between Great Britain and Denmark, this island remains as an appendage to the British crown; though the peculiar circumstances that gave

it such an unprecedented commercial value, have fortunately ceased to exist. A light-house was built on this island, by the republic of Hamburgh, for the greater safety of vessels entering the Elbe; and has since been repaired at great expense by the British government. The whole population of Heligoland, at its most flourishing period, was stated at 3000 individuals.

SMALLER ENGLISH ISLES.—On returning to the English shore, we find but few islands which deserve description. **HOLY ISLAND**, **FARN ISLANDS**, and **COQUET ISLAND**, lie off the coast of Northumberland. The name of the first was derived from its having been the residence of several fathers of the Saxon church, and sanctified by the remains of St. Cuthbert. It is about nine miles in circuit, and was once the See of a Bishop. The remains of its ancient Cathedral are still visible. About half the surface is occupied by sand-banks, but the remainder is a rich soil. It contains only one little town, with a harbour that admits small vessels. Most of the inhabitants, who are about 600 in number, subsist by fishing.

The **FARN ISLES**, which amount to seventeen, are little else than so many barren rocks. They are the resort of immense flocks of sea-fowls, during the breeding season, and among these is the Eider duck, the down of which is a great source of profit to the occupier. Seals also are sometimes killed here, and kelp is made. A light-house was erected on one of these rocks, under the direction of the late Mr. Smeaton.

COQUET ISLAND lies further south than the Farn islands, and is about a mile long, but very narrow. It is chiefly composed of sand-banks, and almost covered, during the season, with the eggs of thousands of sea-fowls. It contains only a few acres of pasturage.

Whaley Island, on the coast of Lancashire; *Holyhead Island*, off the coast of Wales; and *Lundy Island*, at the mouth of the Bristol Channel, are all that deserve enumeration on the west side of South Britain.

The *Isle of Thanet*, which constitutes the eastern part of the county of Kent, is now merely nominal; but in ascending the Thames, the *Isle of Sheppey* is separated from the same county by a branch of the Medway.

COLONIES AND SETTLEMENTS.—Besides the dependencies in Europe, above described, Britain extends her empire over vast tracts of territory in almost every region of the globe. As these, however, will be more appropriately described under the respective parts of the world to which they belong, they shall here be briefly enumerated only. In *Asia*, the English possess Hindustan, Ceylon, and various other islands in the Indian Ocean and Eastern Archipelago, comprising a territorial extent of more than 300,000 square miles, and a population exceeding 40,000,000 of inhabitants. In *Africa*, the Cape of Good Hope, and several other settlements on the western coast, with the island of St. Helena, and others in the Atlantic Ocean, acknowledge the British sway. In the *New World*, she rules over the continental regions of Canada, the settlements on Hudson's Bay, Nova Scotia, and New Brunswick, with the islands of Newfoundland, St. John, and Cape Breton. These contain a surface of nearly 220,000 square miles, but not more than one-seventh or one-eighth of it is in a state of cultivation, while the whole number of inhabitants is not supposed to exceed 500,000. The numerous colonies in the West Indies, and on the coast of South America, have become of great importance to the parent state; and though many of the recent conquests have been restored to their former possessors, since the return of peace, those which still remain, are inhabited by about 700,000 individuals. Scarcely one-tenth of this number are white people, the remainder being negroes, or free people of colour. *New Holland* and its dependencies, are vast regions in *Australasia*, which are partially colonized by British subjects.

From this brief sketch, it is evident that the authority of Britain extends over nearly two-thirds of the globe, with respect to longitude. There are, consequently, various places within these limits that have noon and midnight at the same moment, and the sun never sinks below the horizon of the whole at once. Stretching, also, with a few intermediate spaces, from the 61st degree of north latitude to the 33d of south, the four seasons of the year are likewise experienced at the same time. The colonies of Britain, therefore, spread themselves through every climate, and yield every species of natural product. "It appears, in fact, that at this time, the British possess more territory, more wealth, greater variety of produce, greater population, superior religion, as much liberty, greater security, more commerce, superior agriculture, and greater revenues, than ever were possessed by any other nation, ancient or modern."

Dr. Colquhoun, in his able *Treatise on the Wealth, Power, and Resources of the British Empire*, published in 1814, gives the following summary of its varied population at that period, and which we extract for the purpose of exhibiting a comprehensive view of the whole at once.

	Europeans.	Free persons of colour.	Negroes.	Total.
Present Population of Great Britain and Ireland, exclusive of the Army and Navy.....	16,456,303.....			16,456,303
British Subjects in the different dependencies in Europe.....	180,300.....			180,300
Ditto in the British possessions in North America..	486,146.....			486,146
Ditto in the West India Colonies.....	64,994 ..	33,801 ..	634,096 ..	732,171
Ditto in the conquered Colonies in North America	35,829 ..	26,253 ..	372,800 ..	434,882
Ditto in the British Settlements in Africa.....	26,678 ..	108,290 ..		128,977
Ditto in Colonies and dependencies in Asia.....	61,059 ..	1,807,496 ..	140,450 ..	2,009,005
East India Company's territorial possessions	25,246 ..	40,033,162 ..		40,058,408
British Navy, Army, Marines, and Seamen in registered vessels, including Foreign Corps in the British Service.....	671,241 ..			671,241
Total amount of the population of the British Empire.....	18,001,796	42,008,291	1,147,346	61,157,433

CHAPTER IX.

Statistical and Synoptical Tables.

TABLE I.

COMPARATIVE STATEMENT of the POPULATION of the several Counties of England & Wales, in the years 1801 and 1811; showing the Increase or Diminution, together with the state of the Returns made according to Act of Parliament.

We have already observed, (p. 24) that the Census of 1801 cannot be relied upon as perfectly correct.

ENGLAND.

Counties.	Population 1801.			Increase.	Dimi- nution.	Population 1811.		
	Males.	Females.	Total.			Males.	Females.	Total.
Bedford	30,523	32,870	63,393	6,820	—	33,171	37,042	70,213
Berks	52,821	56,394	109,215	9,062	—	57,360	60,917	118,277
Buckingham	52,091	55,350	107,444	10,206	—	56,208	61,442	117,650
Cambridge	44,081	45,265	89,346	11,763	—	50,756	50,353	101,109
Chester	92,759	98,992	191,751	35,280	—	110,844	116,190	227,034
Cornwall	89,868	98,401	188,269	28,398	—	103,310	113,357	216,667
Cumberland	54,377	62,853	117,230	16,514	—	63,433	70,311	133,744
Derby	79,401	81,746	161,147	24,345	—	91,494	93,993	185,487
Devon	157,240	185,761	343,001	40,307	—	179,553	203,755	383,308
Dorset	53,667	61,652	115,319	9,374	—	57,717	66,976	124,693
Durham	74,770	85,591	160,361	19,444	—	84,777	95,028	179,805
Essex	111,356	115,081	226,437	26,036	—	124,839	127,634	252,473
Gloucester	117,180	133,629	250,809	27,727	—	129,546	148,990	278,536
Hereford	43,955	45,236	89,191	4,882	—	46,404	47,669	94,073
Hertford	48,063	49,514	97,577	14,077	—	55,023	56,631	111,654
Huntingdon	18,521	19,047	37,568	4,640	—	20,402	21,806	42,208
Kent	151,374	156,250	307,624	63,261	—	181,925	188,960	370,885
Lancaster	322,356	350,375	672,731	155,578	—	394,104	434,205	828,309
Leicester	63,943	66,138	130,081	20,338	—	73,366	77,053	150,419
Lincoln	102,445	106,112	208,557	13,994	—	109,707	112,844	222,551
Middlesex	373,655	444,474	818,129	131,913	—	433,036	517,006	950,042
Monmouth	22,173	23,409	45,582	5,692	—	25,715	25,559	51,274
Norfolk	129,842	143,529	273,371	18,611	—	133,076	153,906	291,982
Northampton	63,417	68,340	131,757	9,596	—	68,279	73,074	141,353
Northumberland	73,357	83,744	157,101	15,060	—	80,385	91,776	172,161
Nottingham	68,558	71,792	140,350	22,580	—	79,057	83,843	162,900
Oxford	53,786	55,834	109,620	9,584	—	58,140	60,064	119,204
Rutland	7,978	8,378	16,356	24	—	7,931	8,449	16,380
Salop	82,568	85,076	167,639	27,061	—	96,038	98,662	194,700
Somerset	126,927	146,823	273,750	29,430	—	141,449	161,731	303,181
Southampton	105,667	113,789	219,656	25,691	—	118,434	126,913	245,347
Stafford	118,698	120,455	239,153	57,370	—	148,758	147,765	296,523
Suffolk	101,094	109,340	210,431	23,468	—	111,866	122,033	233,899
Surrey	127,138	141,905	269,043	54,808	—	151,811	72,040	323,851
Sussex	78,797	80,514	159,311	29,934	—	93,775	95,470	189,245
Warwick	99,942	108,248	208,190	10,703	—	104,487	114,406	218,893
Westmoreland	20,175	21,442	41,617	4,369	—	22,902	23,084	45,986
Wilts	87,380	97,727	185,107	8,721	—	91,560	102,268	193,828
Worcester	67,631	71,702	139,333	21,668	—	78,261	82,740	161,001
York, E. Riding	68,457	70,976	139,433	27,920	—	81,205	86,148	167,353
—, N. Riding	74,904	80,602	155,506	2,698	—	77,505	80,699	158,204
—, W. Riding	276,005	287,948	563,953	89,049	—	321,651	331,351	653,002
Total	3,987,935	4,343,499	8,331,434	1,167,966	—	4,555,257	4,944,143	9,499,400

WALES.

Counties.	Population 1801.			Increase.	Per cent.	Population 1811.		
	Males.	Females.	Total.			Males.	Females.	Total.
Anglesea	15,775	18,031	33,806	3,286	—	17,467	19,625	37,092
Brecon,	15,393	16,240	31,633	6,117	—	18,522	19,228	37,750
Cardigan	20,408	22,548	42,956	7,376	—	23,793	26,539	50,332
Caermarthen	31,439	35,878	67,317	9,900	—	36,080	41,137	77,217
Caernarvon	19,586	21,935	41,521	7,498	—	23,241	25,778	49,019
Denbigh	29,247	31,105	60,352	3,888	—	31,129	33,111	64,240
Flint	19,577	20,045	39,622	6,896	—	22,712	23,806	46,518
Glamorgan	34,190	37,335	71,525	9,743	—	39,378	41,890	81,268
Merioneth,	13,896	15,610	29,506	1,418	—	14,303	16,616	30,924
Montgomery	22,914	25,064	47,978	2,628	—	24,760	25,846	50,606
Pembroke,	25,406	30,874	56,280	4,335	—	27,453	33,162	60,615
Radnor,	9,347	9,703	19,050	2,749	—	10,571	11,228	21,799
Total,	257,178	284,368	541,546	65,834	—	289,414	317,966	607,380*

To illustrate this interesting subject still further, we shall insert the following General View of the increase of houses and inhabitants in the Cities and Towns in Great Britain, compared with the increase of houses and inhabitants in the Country.

Increase in the number of houses and population, in the Cities and Towns of Great Britain, from 1801 to 1811.			Increase of houses and Inhabitants in the Country.		Difference.	
Divisions.	Increase of Houses.	Increase of Inhabitants.	Houses.	Inhabitants.	Houses.	Inhabitants.
England	14 per cent.	15 per cent.	13 per cent.	14 per cent.	1 per cent.	1 per cent.
Wales	13 do.	14 do.	9 do.	13 do.	4 do.	1 do.
Scotland	3 do.	15 do.	5 do.	11 do.	2 do. short of	4 do.
Great Britain.	12 do.	15 do.	11 do.	13 do.	1 do.	2 do.

Thus it appears that for 10 years, from 1801 to 1811, there has been an average increase of houses built in towns, beyond those built in the country, equal to one per cent, while on an average the inhabitants have increased two per cent. in towns beyond the augmentation of the country population. It varies, however, in different counties.

In Yorkshire the Population is 2 per cent. in favour of the Country.

Cheshire,

Northumberland,

Herts

Essex

In Lancashire 2 per cent. in favour of the Towns.

Westmoreland, ..

Cumberland,

Surrey

Sussex,

Kent,

Berkshire, ... nearly equal—The increase both in the towns and country, being about 8 per cent.—*Dr. Colquhoun's Treatise on the Wealth and Power of Britain.*

* When this Table was laid before Parliament, *Mr. Rickman* stated that the whole of the Returns for 1811 had not been received, and that the deficiencies had been supplied from the Returns for 1801. The numbers subsequently sent in raised the totals to those given at page 19; and some of the corrections have also been introduced into the list at pages 23 and 24.

TABLE II.

Distribution of the Inhabitants, and the Comparative Population of the several Counties of England and Wales.

The following statement shows the area of each County, with the average number of Inhabitants upon each square mile. It therefore exhibits the comparative extent and population of each County, and the distribution of the inhabitants in the various parts of South Britain.

Counties.	Area in square miles.	Number of persons to each sq. mile.	Counties.	Area in square miles.	Number of persons to each sq. mile.
Bedfordshire	430	.... 163	Middlesex	297	.... 3226
Berkshire	744	.... 159	Monmouthshire ..	516	.... 99
Buckinghamshire ..	748	.... 157	Norfolk	2013	.... 145
Cambridgeshire	686	.... 147	Northamptonshire	965	.... 146
Cheshire.....	1017	.... 224	Northumberland ..	1809	.... 95
Cornwall	1407	.... 154	Nottinghamshire ..	774	.... 210
Cumberland	1497	.... 89	Oxfordshire	742	.... 160
Derbyshire	1077	.... 172	Rutlandshire	200	.... 82
Devonshire	2488	.... 154	Shropshire	1403	.... 139
Dorsetshire	1129	.... 110	Somersetshire	1533	.... 197
Durham.....	1040	.... 182	Staffordshire	1196	.... 247
Essex	1525	.... 165	Suffolk	1566	.... 149
Gloucestershire	1122	.... 254	Surrey	811	.... 399
Hampshire.....	1533	.... 160	Sussex	1461	.... 138
Herefordshire	971	.... 97	Warwickshire	984	.... 232
Hertfordshire	602	.... 185	Westmoreland....	722	.... 64
Huntingdonshire ..	345	.... 122	Wiltshire	1283	.... 153
Kent	1462	.... 255	Worcestershire ..	674	.... 237
Lancashire.....	1860	.... 445	York, East Riding	1268	.... 132
Leicestershire	816	.... 184	—, North Riding	2112	.... 75
Lincolnshire	2787	.... 80	—, West Riding	2633	.... 210

In WALES the Numbers are,

Anglesea	402	.... 92	Flintshire	250	.... 186
Brecknockshire	731	.... 52	Glamorganshire ..	660	.... 130
Cardiganshire	726	.... 69	Merionethshire	780	.... 40
Caermarthenshire ..	926	.... 83	Montgomeryshire ..	782	.... 46
Caernarvonshire	775	.... 64	Pembrokeshire	524	.... 115
Denbighshire	641	.... 100	Radnorshire	510	.... 41

About half the population of Great Britain is contained in the towns, and the other half inhabit the country. On this subject, the following results have been given by *Dr. Colquhoun*, in his "Treatise on the Wealth and Power of Great Britain:" viz.

	Counties.	Towns.	Houses.	Inhabitants.
In England	40	.... 861	.... 746,308	.... 4,221,814
Wales.....	12	.... 78	.... 29,416	.... 143,467
Scotland ...	32	.... 244	.... 139,670	.... 907,431
	<u>84</u>	<u>1183</u>	<u>915,394</u>	<u>5,272,712</u>

	Houses.	Inhabitants.	Total Houses.	Total Inhabitants.
In the Country... England ..	979,723	.... 5,317,013	.... 1,726,031	.... 9,538,827
Wales	93,077	.... 468,321	.... 122,493	.... 611,788
Scotland ..	175,752	.... 898,257	.... 315,422	.... 1,805,688
	<u>1,248,552</u>	<u>6,683,591</u>	<u>2,163,946</u>	<u>11,956,303</u>

" Thus it appears, that in England the inhabitants of the Country only exceed those in the Towns to the extent of 95,199 persons, less than one-eleventh part; whereas in Wales, the difference is much greater, being more than double on the whole population; while in Scotland the population in the Country and in the Towns, is nearly equal. During the 10 years between 1801 and 1811, the increase of population of Great Britain, in the Country and in the Towns, stands thus:—

The Inhabitants of the Country have increased.. 787,612
The Inhabitants of the Towns have increased.... 696,643

Total 1,484,255

The Houses have increased, in the Country . . . 127,661
in the Towns 98,796

Total 226,457

Which shows that there is a greater tendency to populate the Towns than the Country. It is probable many of the buildings erected for the accommodation of the rural population, are barns, stables, and other out-houses for agricultural purposes, whereas those erected in Towns, are generally for the dwellings of the Inhabitants; and it should seem probable that a greater proportion of the population of Great Britain live in Towns than in any other Country, Holland, perhaps, excepted; and yet it appears that the general mortality has been progressively diminishing.

The same author also distributes the population of Great Britain and Ireland into the following classes, with the number of families, of individuals, and the income of each, in 1812, as follows,

	Families.	Persons including domestics.	Income of each class.
Royalty.....	12	300	£501,000
Nobility.....	564	13,620	5,400,480
Gentry.....	46,861	402,915	53,022,110
State and Revenue.....	21,500	114,500	8,830,000
Army.....	75,000	490,000	14,000,000
Navy.....	53,000	345,000	9,299,680
Half-pay, &c.....	2,500	14,500	856,600
Pensioners.....		92,000	1,050,000
Clergy.....	19,000	96,500	4,580,000
Law.....	19,000	95,000	7,600,000
Physic.....	18,000	90,000	5,400,000
Fine Arts.....	5,000	25,000	1,400,000
Agriculture, Mines, &c.....	1,302,151	6,129,142	107,246,795
Foreign Com., Shipping, Manufac., and Trade, including Fisheries	1,506,774	7,071,989	183,908,352
Universities and Schools for the education of youth.....	35,874	213,496	7,664,400
Miscellaneous.....	9,445	354,441	9,890,955
Paupers.....	387,100	1,548,400	9,871,000
Total	3,501,781	17,096,803	£430,521,372

AGGREGATE.

	Families.	Persons.	Income.
Agriculture, Mines, &c.....	1,302,151	6,129,142	£107,246,795
Inland Trade.....	970,224	4,599,139	98,629,352
Manufactures.....	464,500	2,066,500	57,223,000
Foreign Commerce and Shipping.....	72,050	406,350	28,056,000
King's Military and Marine, including Pensioners.....	130,500	941,500	25,206,280
Miscellaneous.....	562,356	2,954,172	114,159,945
Total	3,501,781	17,096,803	£430,521,372

TABLE III.

ALTITUDES of the STATIONS, and several other remarkable Hills, computed from the observations made in the course of the Trigonometrical Survey, carried on under the superintendence of the late Major-General MUDGE, F. R. S. &c., and Captain COLBY of the Royal Engineers.

A.				Feet.
Aberystwith, <i>Cardiganshire</i>	..	..	..	496
Agnes (St.) Beacon, <i>Cornwall</i>	..	..	..	621
Allington Knoll, <i>Kent</i>	..	..	..	329
Alnwick Moor, <i>Northumberland</i>	..	..	..	808
Ann's (St.) Heights, at the mouth of Milford Haven, <i>Pembrokeshire</i>	..	..	..	235
Ann's (St.) Hill, <i>Surrey</i>	..	..	..	240
Arbury Hill, <i>Northamptonshire</i>	..	..	..	804
Arran Fowddy, <i>Merionethshire</i>	..	..	..	2955
Arrenig, <i>Merionethshire</i>	..	..	..	2809
Ash Beacon, <i>Somersetshire</i>	..	..	..	655
Ashley Heath, <i>Staffordshire</i>	..	..	..	803
Axedge, <i>Derbyshire</i>	..	..	..	1751
B.				
Bagshot Heath, <i>Surrey</i>	..	..	..	463
Banstead, <i>Surrey</i>	..	..	..	576
Bar Beacon, <i>Staffordshire</i>	..	..	..	653
Bardon Hill, <i>Leicestershire</i>	..	..	..	853
Barnaby Moor, <i>Yorkshire</i>	..	..	..	784
Beachy Head, <i>Sussex</i>	..	..	..	564
Beacons of Brecknock, <i>Brecknockshire</i>	..	..	..	2862
Beacon Hill, <i>Wiltshire</i>	..	..	..	690
Beeston Castle (Top of), <i>Cheshire</i>	..	..	..	556
Belle-field Hill, <i>Cheshire</i>	..	..	..	401
Beryl Hill, <i>Lancashire</i>	..	..	..	128
Billinge Beacon, <i>Lancashire</i>	..	..	..	633
Bindown, <i>Cornwall</i>	..	..	..	658
Black Comb, <i>Cumberland</i>	..	..	..	1919
Black Down, <i>Dorsetshire</i>	..	..	..	817
Black Hambleton Down, <i>Yorkshire</i>	..	..	..	1246
Blackheddon, <i>Northumberland</i>	..	..	..	646
Bleasdale Forest, <i>Lancashire</i>	..	..	..	1709
Bodmin Down, <i>Cornwall</i>	..	..	..	645
Boulsworth Hill, <i>Lancashire</i>	..	..	..	1689
Bolt Head, <i>Devonshire</i>	..	..	..	430
Botley Hill, <i>Surrey</i>	..	..	..	880
Botton Head, <i>Yorkshire</i>	..	..	..	1485
Bow Brickhill, <i>Buckinghamshire</i>	..	..	..	683
Bow Fell, <i>Cumberland</i>	..	..	..	2911
Bow Hill, <i>Sussex</i>	..	..	..	702
Bradfield Point, <i>Yorkshire</i>	..	..	..	1246
Bradley Knoll, <i>Somersetshire</i>	..	..	..	973
Brandon Mount, <i>Durham</i>	..	..	..	875
Brenin Fawyr, <i>Pembrokeshire</i>	..	..	..	1285
Brightling Down, <i>Sussex</i>	..	..	..	646
Broadway Beacon, <i>Gloucestershire</i>	..	..	..	1086
Brown Clay Hill, <i>Shropshire</i>	..	..	..	1805
Brown Willy, <i>Cornwall</i>	..	..	..	1368
C.				Feet.
Bull Barrow, <i>Dorsetshire</i>	..	..	..	927
Burian (St.), <i>Cornwall</i>	..	..	..	415
Burleigh Moor, <i>Yorkshire</i>	..	..	..	553
Butser Hill, <i>Hampshire</i>	..	..	..	917
Butterton Hill, <i>Devonshire</i>	..	..	..	1203
Bwlch Mawr, <i>Caernarvonshire</i>	..	..	..	1673
Cader Ferwyn, <i>Merionethshire</i>	..	..	..	2563
Cader Idris, <i>Merionethshire</i>	..	..	..	2914
Cadon Barrow, <i>Cornwall</i>	..	..	..	1011
Caermarthen Van, or Trecastle Beacon, <i>Caermarthen</i>	..	..	..	2596
Calf Hill, <i>Westmoreland</i>	..	..	..	2188
Carn Fell, <i>Yorkshire</i>	..	..	..	2245
Capellante, <i>Brecknockshire</i>	..	..	..	2394
Capel Kynon, <i>Cardiganshire</i>	..	..	..	1046
Carnedd David, <i>Caernarvonshire</i>	..	..	..	3427
Carnedd Llewellyn, <i>Caernarvonshire</i>	..	..	..	3469
Carraton Hill, <i>Cornwall</i>	..	..	..	1208
Castle Ring, <i>Staffordshire</i>	..	..	..	715
Cawsand Beacon, <i>Devonshire</i>	..	..	..	1792
Cefn Bryn, <i>Glamorganshire</i>	..	..	..	583
Chanetonbury Hill, <i>Sussex</i>	..	..	..	814
Charton Common, <i>Dorsetshire</i>	..	..	..	582
Cheviot, <i>Northumberland</i>	..	..	..	2658
Clifton Beacon, <i>Yorkshire</i>	..	..	..	417
Cleave Down, <i>Gloucestershire</i>	..	..	..	1134
Collier Law, <i>Durham</i>	..	..	..	1678
Coniston Fell	..	..	..	2577
Corley, <i>Warwickshire</i>	..	..	..	521
Cradle Mountain, <i>Brecknockshire</i>	..	..	..	2545
Cross Fell, <i>Cumberland</i>	..	..	..	2901
Crowborough Beacon, <i>Sussex</i>	..	..	..	804
Cryn y Brain Mountain, <i>Denbighshire</i>	..	..	..	1857
D.				
Danby Beacon, <i>Yorkshire</i>	..	..	..	966
Deadman, <i>Cornwall</i>	..	..	..	379
Dean Hill, <i>Hampshire</i>	..	..	..	539
Delamere Forest, <i>Cheshire</i>	..	..	..	596
Dent Hill, <i>Cumberland</i>	..	..	..	1115
Ditchling Beacon, <i>Sussex</i>	..	..	..	858
Dover Castle, <i>Kent</i>	..	..	..	469
Dumpton Hill, <i>Dorsetshire</i>	..	..	..	879
Dundon Beacon, <i>Somersetshire</i>	..	..	..	360
Dundry Beacon, <i>Somersetshire</i>	..	..	..	1668
Dunnose, <i>Isle of Wight</i>	..	..	..	792
Dwggan, near Builth, <i>Brecknockshire</i>	..	..	..	2071

				Feet.
E.				
Easington Heights, <i>Yorkshire</i>	..	..	681	
Epwell Hill, <i>Oxfordshire</i>	..	..	836	
F.				
Fairlight Down, <i>Sussex</i>	..	..	599	
Farley Down, (near Bath), <i>Gloucestershire</i>	..	..	700	
Firle Beacon, <i>Sussex</i>	..	..	820	
Folkstone Turnpike, <i>Kent</i>	..	..	575	
Frant Steeple (Top), <i>Sussex</i>	..	..	659	
Farland (near Dartmouth), <i>Devonshire</i>	..	..	589	
G.				
Garreg Mountain, <i>Flintshire</i>	..	..	835	
Garth (The), <i>Glamorganshire</i>	..	..	981	
Gerwyn Goch, <i>Caernarvonshire</i>	..	..	1723	
Go Hill, <i>Lancashire</i>	..	..	304	
Goudhurst, <i>Kent</i>	..	..	497	
Grasmere Fell, <i>Cumberland</i>	..	..	2756	
Greenwich Observatory, <i>Kent</i>	..	..	214	
Gringley on the Hill, <i>Yorkshire</i>	..	..	235	
Gwaunysgaer Down, <i>Denbighshire</i>	..	..	732	
H.				
Haldon (Little), <i>Devonshire</i>	..	..	818	
Hanger Hill (Tower), <i>Middlesex</i>	..	..	251	
Hathersedge, <i>Derbyshire</i>	..	..	1377	
Hawkeston Obelisk (Top of), <i>Shropshire</i>	..	..	812	
Hedgehope, <i>Northumberland</i>	..	..	2347	
Helvellin, <i>Cumberland</i>	..	..	3055	
Hensbarrow Beacon, <i>Cornwall</i>	..	..	1034	
Heswell Hill, <i>Cheshire</i>	..	..	475	
Highbecch, <i>Essex</i>	..	..	750	
Highelere Beacon, <i>Hampshire</i>	..	..	900	
Highgate Down, <i>Pembrokeshire</i>	..	..	294	
High Nook (near Dymchurch), <i>Kent</i>	..	..	28	
High Pike, <i>Cumberland</i>	..	..	2101	
Hind Head, <i>Surrey</i>	..	..	923	
Holland Hill, <i>Nottinghamshire</i>	..	..	487	
Holme Moss, <i>Derbyshire</i>	..	..	1859	
Hollingborn Hill, <i>Kent</i>	..	..	616	
Holy Head Mountain, <i>Anglesea</i>	..	..	709	
Hundred Acres, <i>Surrey</i>	..	..	443	
Hunsley Beacon, <i>Yorkshire</i>	..	..	531	
I.				
Ingleborough Hill, <i>Yorkshire</i>	..	..	2361	
Inkpin Beacon, <i>Hampshire</i>	..	..	1011	
K.				
Karbonellis, <i>Cornwall</i>	..	..	822	
Karminnis, <i>Cornwall</i>	..	..	805	
Kensworth, <i>Hertfordshire</i>	..	..	904	
Kilhope Law	..	..	2196	
King's Arbour, <i>Middlesex</i>	..	..	132	
Kit Hill, <i>Cornwall</i>	..	..	1067	
L.				
Langdon Hill, <i>Essex</i>	..	..	620	
Lansdown, <i>Somersetshire</i>	..	..	813	
Ledstone Beacon, Yorkshire				278
Leith Hill, Surrey				993
Lillyhoe, Hertfordshire				664
Llandinam Mountain, Montgomeryshire				1898
Llanellian Mountain, Anglesea				582
Llanellian Mountain, Denbighshire				1110
Llangenior Mountain, Glamorganshire				1859
Llannon, Caermarthenshire				912
Llwydiart Mountain, Anglesea				523
Long Mount Forest, Shropshire				1674
Long Mountain, Montgomeryshire				1330
Loosehoe, Yorkshire				1404
Lords Seat, Derbyshire				1751
M.				
Maker Heights, Cornwall				402
Malvern Hill, Worcestershire				1444
Marros Beacon, Caermarthenshire				514
Margam Down, Glamorganshire				1099
May Hill, Gloucestershire				965
Moel Famau, Denbighshire				1845
Moelfre Issa, Denbighshire				1037
Moel Rhyddlad, Anglesea				465
Moor Lynch (Windmill), Somersetshire				330
Moel Morwith, Denbighshire				1767
Motteston Down, Hampshire				698
Mow Copt, Cheshire				1091
Muzzle Hill (near Brill) Buckinghamshire				744
N.				
Nettlebed (Windmill), Oxfordshire				820
New Inn Hill, Caermarthenshire				1168
Newton Down, Pembrokeshire				322
Nine Barrow Down, Dorsetshire				642
Nine Standards, Westmoreland				2136
North Berule, Isle of Man				1804
Norwood, Surrey				389
Nuffield Common, Berkshire				757
O.				
Ogmoor Down, Glamorganshire				292
Orpit Heights, Derbyshire				980
P.				
Paddlesworth, Kent				642
Pendle Hill, Lancashire				1803
Pengarn, Merionethshire				1510
Penmaen Mawr, Caernarvonshire				1540
Pennigant Hill, Yorkshire				2270
Pertinney, Cornwall				689
Pillar, Cumberland				2893
Pilsdon Hill, Dorsetshire				934
Plumstone Down, Pembrokeshire				573
Plynlimmon Mountain, Cardiganshire				2463
Pontop Pike, Durham				1018
Portsmouth Hill, Hampshire				447
Precelly Top, Pembrokeshire				1754
R.				
Radnor Forest, Radnorshire				2163
Rhiw, Mountain, Caernarvonshire				1013

	Feet.		Feet
Rippin Tor (Dartmoor), <i>Devonshire</i> ..	1549	St. Stephen's Down, <i>Cornwall</i>	605
Rivel Mountain, <i>Carnarvonshire</i>	1866	Stow Hill, <i>Herefordshire</i>	1417
Rivington Hill, <i>Lancashire</i>	1545	Stow on the Wold, <i>Gloucestershire</i>	883
Rodney's Pillar (Base of), <i>Montgomeryshire</i> ..	1199	Swingfield Steeple (Top), <i>Kent</i>	530
Rooks Hill, <i>Sussex</i>	702	Symmonds Hill, <i>Gloucestershire</i>	795
Roseberry Topping, <i>Yorkshire</i>	1022	T.	
Ruckinge, <i>Sussex</i>	37	Talsarn, <i>Cardiganshire</i>	1142
Rufflaw, <i>Northumberland</i>	595	Tenterden Steeple, <i>Kent</i>	322
Rumbles Moor, <i>Yorkshire</i>	1308	Thorney Down, <i>Somersetshire</i>	610
S.		Tregarron Down, <i>Cardiganshire</i>	1747
Saddleback, <i>Cumberland</i>	2787	Trelleg Beacon, <i>Monmouthshire</i>	1011
Sarum (Old), <i>Wiltshire</i>	339	Treose Head, <i>Cornwall</i>	274
Sea Fell (Low Point), <i>Cumberland</i>	3092	W.	
Sea Fell (High Point), <i>Cumberland</i>	3166	Water Crag, <i>Yorkshire</i>	2186
Seilly Bank, <i>Cumberland</i>	500	Weaver Hill, <i>Staffordshire</i>	1154
Scutchamfly Beacon, <i>Berkshire</i>	853	Wendover Down, <i>Buckinghamshire</i>	905
Sennen, <i>Cornwall</i>	387	Westbury Down, <i>Wiltshire</i>	775
Sherwood Forest, <i>Nottinghamshire</i>	609	Whenside (in Ingleton Fells.) <i>Yorkshire</i> ..	2384
Shooters Hill, <i>Kent</i>	446	Whenside (in Kettlewell Dale), <i>Yorkshire</i> ..	2263
Shotover Hill, <i>Oxfordshire</i>	599	White Horse Hill, <i>Berkshire</i>	893
Shunner Fell, <i>Yorkshire</i>	2329	Whiteham Hill, <i>Berkshire</i>	576
Simon-side Hill, <i>Northumberland</i>	1107	Wilton Beacon, <i>Yorkshire</i>	809
Skiddaw, <i>Cumberland</i>	3022	Wingren Hill, <i>Dorsetshire</i>	941
Snea Fell, <i>Isle of Man</i>	2004	Wittle Hill, <i>Lancashire</i>	1614
Snowdon, <i>Carnarvonshire</i>	3571	Wordslow Hill, <i>Durham</i>	632
Staincross Heights, <i>Yorkshire</i>	514	Wrekin, <i>Shropshire</i>	1320
Stathern Point, <i>Leicestershire</i>	490	Y.	
Stockbridge Hill, <i>Hampshire</i>	620	Ynallig Mountain, <i>Carnarvonshire</i>	584

TABLE IV.

Annual quantity of rain that falls in England.

To afford a comparative View of the quantities of Rain that annually fall in the various counties of England, we insert the following table, distinguishing the inland from the Maritime Counties, and stating the number of years for which the observations at each place were made.

MARITIME COUNTIES.

Counties.	Places.	Mean annual depth of rain.	Counties.	Places.	Mean annual depth of rain.
Cumberland,	Keswick, 7 years.....	67.5 in.		Dalton, 1 year.....	49 in.
	Carlisle, 1 year.....	20.2	Gloucestershire ..	Bristol, 3 years.....	29.2
Westmoreland....	Kendal, 11 years.....	59.8	Somersetshire	Bridgewater, 3 years...	29.3
	Fellfoot, 3 years	55.7		Minchhead.....	31.3
	Waith Sutton, 5 years	46	Cornwall	Ludman, near Mount's Bay, 5 years	41
Lancashire	Lancaster, 10 years ..	45		Another place, 1 year	29.9
	Liverpool, 18 years..	34.4	Yorkshire.....	Barnsby, near Leeds, 6 years.....	27.5
	Manchester, 9 years..	33		Ferrybridge.....	26.6
	Townley, 15 years....	41		Garsdale, near Sedburgh, 3 years....	52.3
Devonshire	Plymouth, 2 years....	46.5		Sheffield	
	Exeter	33.2		Hull, 2 years	27
Hampshire	Selbourne, 9 years....	37.2	Northumberland ..	Weddington, 1 year..	21.2
	Tyfield, 7 years.....	25.9	Lincolnshire	Horncastle, 1 year..	26
Kent.....	Dover, 5 years.....	37.5	Sussex	Chichester	26.8
Essex	Upminster.....	19.5			
Norfolk	Norwich, 13 years	25.5			
	Dip, 1 year.....	25			
Lancashire	Crawshaw-looth, near Haslingden, 2 years	60			

INLAND COUNTIES.

Middlesex.....	London, 7 years.....	23 in.	Rutlandshire	Lyndon, 45 years.....	22.2
Surrey.....	S. Lambeth, 9 years.....	22.7	Northamptonshire	Oundle, 14 years.....	23
	Chertsey, 1 year.....	25	Staffordshire		36
Hertfordshire.....	Near Ware, 5 years ..	25	Worcestershire		29
Huntingdoushire ..	Kimbolton, 5 years....	25	Nottinghamshire ..	Nottingham, 1 year ..	25
Derbyshire	Chatsworth, 15 years..	27.8		West Bridgeford	27

TABLE V.

VALUE of IMPORTS into GREAT BRITAIN from all parts of the World, calculated at the Official Rates of Valuation, as laid before Parliament, and ordered to be printed by the House of Commons, 2d April, 1819.

SPECIES OF IMPORTS.	Years ending 5th January								
	1817.			1818.			1819.		
	£	s.	d.	£	s.	d.	£	s.	d.
Foreign & Colonial Merchandise.									
Almonds of all sorts	12,196	3	7	13,412	16	8	20,371	13	9
Annotto	9,577	13	0	8,576	16	0	11,526	4	6
Ashes, Pearl and Pot	202,677	2	7	255,897	12	3	241,841	5	3
Bacon and Hams	258	11	4	299	15	3	2,036	18	3
Barilla	121,746	11	9	114,452	13	1	77,569	15	7
Bark, Oak, and Quercitron ..	39,472	19	7	61,397	0	11	121,512	12	6
Berries, Juniper	6,288	9	11	14,629	13	9	15,241	1	4
Borax	103,501	6	0	32,572	12	0	76,666	3	0
Brimstone	17,643	6	6	29,988	15	1	71,915	11	9
Bristles, undressed	12,797	5	1	28,119	10	4	31,629	2	11
Butter	88,923	15	8	28,779	18	7	116,623	8	5
Camphire	8,673	13	3	6,699	12	0	9,121	12	0
Cassia Lignea	63,747	9	9	36,746	6	6	11,231	11	2
Cheese	113,346	14	4	39,614	11	9	167,675	13	4
Cinnamon	83,339	16	0	78,695	4	6	114,659	16	0
Cloves	97,843	17	6	87,471	10	0	6,590	3	9
Cockleal and Granilla	122,113	16	3	113,211	9	0	177,607	7	6
Cocoa	28,848	1	1	21,243	19	2	37,143	13	9
Cod Fish	19,460	18	3	28,557	0	0	23,936	15	3
Coffee	3,341,277	10	0	3,529,911	15	6	2,810,774	5	9
Copper, unwrought, in Bricks and Pigs	1	18	6	708	17	10	800	7	10
Cork	25,374	4	9	22,755	3	6	25,588	10	6
Corn, Grain, Meal, & Flour ..	105,544	18	9	2,202,953	2	1	3,918,591	16	0
Cortex Peruvianus	2,964	2	6	5,681	7	6	6,190	7	6
Cows and Oxen	1,032	15	0	2,042	15	0	1,978	10	0
Currants	85,769	19	7	96,240	10	9	155,763	19	10
Elephants' Teeth	16,515	14	11	12,504	6	5	14,174	0	8
Feathers for Beds	3,970	5	3	1,771	19	6	3,533	5	2
Figs	5,686	1	0	8,851	5	7	15,795	3	3
Flax, rough	435,171	5	2	818,384	4	8	866,773	0	6
Gum Arabic	8,699	5	8	9,485	10	10	11,917	17	5
— Senegal	21,691	0	10	18,410	2	19	20,981	12	5
— Shellac or Seedlac	22,018	4	9	24,705	16	6	31,525	4	0
Hemp, rough	314,042	5	3	388,676	8	11	561,342	18	1
Hides, raw and tanned	297,508	5	8	131,163	12	4	335,408	16	10
Horses	735	0	0	690	0	0	1,110	0	0
Jalap	2,716	0	0	6,990	2	6	3,777	10	0
Indigo	999,384	2	0	707,569	13	0	777,546	1	3
Iron, in Bars	82,928	3	5	99,155	14	8	162,195	5	2
Isinglass	14,535	16	11	29,535	5	8	11,187	4	11
Lemons and Oranges	48,525	7	7	41,716	18	1	40,681	6	2
Linens, Foreign	37,213	17	0	32,920	9	4	31,782	0	11
Mace	24,265	12	6	51,338	2	6	5,578	15	0

SPECIES OF IMPORTS.	Years ending 5th January								
	1817.			1818.			1819.		
Foreign & Colonial Merchandize.	£	s.	d.	£	s.	d.	£	s.	d.
Madder and Madder Roots..	221,319	11	7	322,155	1	10	721,713	0	1
Molasses	1,552	18	9	5,176	5	4	20,969	6	9
Nutmegs	73,109	4	0	73,056	18	0	11,913	16	0
Oil, Ordinary Olive	46,181	2	6	33,431	8	0	120,025	19	2
—, Train and Blubber	410,527	17	0	325,675	19	11	425,630	15	0
Pepper	199,760	18	4	67,862	4	4	98,538	18	0
Piece goods of India	766,490	2	6	716,591	11	9	767,825	11	10
Pimento	41,216	3	0	35,313	8	0	47,966	1	0
Pitch and Tar	111,958	11	8	87,564	14	2	135,123	5	5
Quicksilver	66,113	4	0	186,495	16	0	261,856	0	0
Raisins	66,311	11	10	53,003	10	6	101,671	0	1
Rhubarb	55,290	0	0	65,553	2	6	69,368	2	6
Rice	65,732	1	8	179,300	7	10	313,413	7	0
Salt	10,527	6	1	12,369	6	5	24,805	17	2
Salt Petre	96,399	11	10	102,107	9	3	80,726	17	7
Seeds, Clover	9,761	7	7	24,984	8	8	73,468	17	2
—, Flax and Linseed ..	73,694	6	1	169,995	9	3	266,644	7	2
—, Rape	10,857	5	0	33,857	15	0	38,723	6	3
Shumac	22,469	19	8	16,844	3	3	21,049	10	10
Silk, Raw	365,218	15	9	398,544	14	8	708,365	9	0
—, Thrown	230,589	12	0	294,709	10	0	548,365	10	0
Skins and Furs	113,843	8	2	174,008	9	1	228,731	0	1
Smalts	4,381	16	3	10,355	14	5	10,749	5	0
Spirits, Foreign, viz. Brandy	130,793	5	0	116,209	11	11	187,178	11	2
—, Geneva	16,870	1	3	13,771	7	10	25,811	12	6
—, Rum..	348,274	16	4	556,641	0	2	482,342	14	0
Succus Liquoritiæ	29,616	3	8	46,746	14	10	25,811	15	0
Sugar, raw	5,112,263	11	9	5,188,913	13	7	5,117,784	8	6
Tallow	416,368	14	5	415,782	11	11	581,884	1	0
Tea	3,623,438	0	0	3,146,707	6	0	2,006,572	16	0
Tobacco	290,081	5	10	185,624	19	9	421,253	1	9
Turpentine, common	70,455	12	9	75,036	5	8	122,032	2	11
Wax, Bees	5,351	1	9	21,088	14	11	17,004	1	2
Whalefins	106,931	15	6	91,049	5	6	110,589	19	8
Wines	448,761	18	7	688,788	19	9	895,203	4	6
Wood, Deals, and Deal ends	28,164	18	9	46,097	3	1	57,987	0	1
—, Fustic	36,016	15	6	30,337	1	11	55,966	4	1
—, Logwood	148,315	13	5	121,616	5	6	138,019	7	6
—, Mahogany	133,454	9	1	75,596	13	11	158,513	11	9
—, Masts and Spars	169,297	3	3	163,297	16	9	111,694	6	0
—, Red wood & Camwood	62,913	5	6	59,963	10	10	39,211	18	11
—, Staves	54,133	13	5	50,289	6	10	57,883	7	8
—, Timber, Fir	155,999	6	0	176,351	19	5	271,367	1	7
—, & Plank Oak.	32,226	18	4	21,547	8	7	21,958	13	5
Wool, Cotton	3,160,075	6	6	4,161,823	13	3	5,767,544	10	6
—, Sheep's	316,129	12	10	617,215	11	5	1,016,902	19	4
Yarn, Linen, raw	52,265	12	4	126,762	6	4	253,697	1	8
All other articles	961,469	1	0	1,092,145	16	1	1,389,739	4	0
Total official value of Foreign and Colonial Merchandize imported into Great Britain, from all parts of the World.	£26,406,634	17	3	£29,962,913	13	9	£35,880,983	4	11

SPECIES OF IMPORTS.	Years ending 5th January								
	1817.			1818.			1819.		
	£	s.	d.	£	s.	d.	£	s.	d.
Prod. of Ireland & the Isle of Man.									
Bacon and Hams.....	353,621	6	9	288,706	2	9	314,844	4	4
Beef, Salted.....	95,682	19	2	179,336	13	7	160,928	5	5
Butter	106,017	8	4	412,602	4	7	508,457	13	4
Corn, Grain, Meal and Flour	659,875	11	1	480,659	8	7	824,163	19	3
Cows and Oxen	62,544	5	0	115,486	5	0	139,495	0	0
Feathers for Beds	19,899	16	7	16,130	9	7	29,184	13	5
Flax, rough	66,816	16	0	79,043	9	5	61,394	4	2
Herrings, red and white ..	18,369	0	3	16,076	19	3	8,686	18	9
Hides, raw and tanned	15,050	5	8	37,932	15	4	23,022	18	10
Horses	11,857	10	0	10,335	0	0	26,647	10	0
Lard	19,588	4	3	15,074	7	0	20,003	19	1
Lincus, Irish	1,547,973	8	0	1,824,066	7	6	1,655,478	19	8
Pork, Salted.....	115,461	0	11	175,441	3	8	174,572	16	4
Skins and Furs	23,551	10	2	29,634	10	3	23,561	19	3
Spirits, Irish	2,772	15	0	150	6	0	166	14	6
Wool, Sheep's.....	15,009	8	6	16,601	7	6	42,452	3	6
Yarn, Linen, raw	89,883	0	6	121,960	18	6	83,422	4	4
All other Articles	174,956	18	5	153,380	3	9	180,467	0	5
Total official value of the Pro- duce of Ireland and the Isle of Man, imported into Great Britain	£3,698,931	1	7	£4,002,318	12	3	£4,276,651	4	7
Total official value of Imports in Great Britain, from all parts of the World	£30,105,566	1	9	£33,965,232	6	0	£40,157,634	9	6

TABLE VI.

VALUE of Foreign and Colonial Merchandize, exported from GREAT BRITAIN to all parts of the World, for three years, calculated at the Official Rates of Valuation. Ordered by the HOUSE OF COMMONS to be printed, 2d April, 1819.

SPECIES OF EXPORTS.	Years ending 5th January								
	1817.			1818.			1819.		
	£	s.	d.	£	s.	d.	£	s.	d.
Annotto	15,323	8	9	2,444	6	3	1,603	17	6
Ashes, Pearl and Pot	62,460	0	10	29,215	19	10	25,518	4	11
Barilla	15,129	2	10	15,718	13	2	4,560	4	3
Cassia Lignea	61,548	18	0	27,702	8	0	10,492	6	0
Cinnamon	98,548	5	0	124,928	15	0	118,732	4	0
Cloves	66,074	2	6	86,172	0	0	150,510	0	0
Cochineal and Granilla	100,610	7	6	84,926	0	6	122,836	1	0
Cocoa	57,003	15	5	29,691	0	1	23,315	10	1
Cod Fish	34,341	18	2	33,643	0	10	17,188	19	3
Coffee	4,984,408	13	6	3,389,283	13	0	3,151,118	4	0
Corn, Grain, Meal, & Flour..	52,508	12	0	237,839	1	0	43,738	13	9
Cortex Peruvianus	12,556	19	0	23,043	9	0	23,289	9	0
Currants	36,375	7	5	8,835	6	11	16,405	10	5
Flax, rough	52,058	10	7	11,576	0	2	6,634	11	7
Hemp, rough	26,235	19	11	29,400	10	11	53,333	16	5
Hides, raw and tanned	212,395	15	8	30,932	14	0	55,695	8	10
Indigo	829,129	12	2	486,957	7	2	601,028	6	10
Iron, in Bars	112,118	16	11	52,890	17	10	64,821	11	5
Linens, Foreign	36,844	14	0	16,201	19	8	16,685	18	1
Mace	34,332	1	0	34,177	4	0	66,427	19	0
Nutmegs	47,181	17	6	65,132	12	0	57,200	3	0
Oil, Ordinary Olive	3,778	15	10	11,458	15	7	17,573	9	7
—, Train	48,301	10	9	23,704	1	7	29,927	2	10
Pepper	124,365	2	5	223,642	16	10	242,470	8	5
Piece goods of India	1,419,181	16	11	1,212,523	8	3	1,270,699	19	7
Pimento	51,790	6	6	34,806	11	5	43,754	10	4
Raisins	30,925	0	5	6,727	11	1	5,029	17	10
Rice	54,839	3	1	154,856	7	4	141,170	13	6
Salt Petre	117,659	3	8	131,193	3	8	65,011	16	6
Silk, Raw and Thrown	275,200	18	0	80,995	0	0	128,380	10	0
Skins and Furs	30,726	16	1	26,733	9	1	35,115	17	7
Spirits, Brandy	73,345	6	10	91,525	2	2	215,277	12	2
—, Geneva	49,608	0	0	38,229	6	6	64,521	6	6
—, Rum	824,820	3	0	934,308	11	6	937,256	8	0
Sugar, raw	1,591,634	12	1	1,174,233	14	8	1,445,706	10	8
Tea	546,701	0	5	576,111	7	9	671,617	9	0
Tobacco	259,140	11	6	238,304	2	3	147,647	1	8
Wines	220,788	16	6	189,014	0	9	168,801	14	10
Wood, Fustic	8,752	19	0	11,787	19	1	17,014	17	1
—, Logwood	111,238	8	6	41,340	5	2	61,013	2	3
Wool, Cotton	343,768	1	2	721,430	6	1	1,245,780	15	0
All other articles	1,089,210	10	11	790,947	6	10	1,002,363	12	4
Total official value of Foreign and Colonial Merchandize exported from Great Britain, to all parts of the World....	£11,545,964	2	3	£11,534,616	12	11	£12,287,274	15	0

TABLE VII.

VALUE of the *Produce and Manufactures of the United Kingdom, Exported from GREAT BRITAIN to all parts of the World, for three years, according to the Real or Declared Value thereof. Ordered by the HOUSE of COMMONS to be printed, 2d April, 1819.*

SPECIES OF EXPORTS.	Years ending 5th January								
	1817.			1818.			1819.		
	£	s.	d.	£	s.	d.	£	s.	d.
Alum	20,468	1	0	22,079	1	4	17,498	8	11
Bacon and Hams	52,523	13	4	62,346	0	5	59,580	6	4
Bark, British Oak, for Tanners	99,702	18	8	135,026	10	9	135,307	13	4
Beef and Pork, salted	166,556	1	7	234,248	16	4	312,618	18	11
Beer and Ale	351,006	11	10	355,171	15	5	357,605	18	9
Brass and Copper Manufac.	675,003	12	5	795,812	4	5	811,191	2	11
Bread and Biscuit	76,800	12	11	130,416	4	0	111,472	5	8
Butter and Cheese	216,523	0	6	220,053	6	9	227,967	18	2
Cabinet & Upholstery Wares	115,110	8	6	143,582	1	6	146,855	6	0
Coals and Culm	125,235	15	3	411,870	18	6	389,196	8	8
Cordage	179,226	15	2	136,614	16	5	132,154	1	4
Corn, Grain, Meal, and Flour	480,078	14	6	1,266,919	1	10	349,897	4	11
Cotton Manufactures	13,072,758	11	10	11,179,021	2	9	16,643,579	8	3
Yarn	2,707,384	10	10	2,131,629	3	8	2,554,058	11	4
Earthenware of all sorts	637,201	0	7	532,845	2	1	583,783	14	11
Fish of all sorts	368,878	10	3	423,700	4	5	413,057	2	7
Glass of all sorts	786,385	14	5	762,595	3	4	810,213	8	9
Haberdashery & Millinery	498,220	1	4	419,633	15	1	518,764	11	1
Hardware and Cutlery	1,987,982	0	0	1,197,874	12	3	1,721,569	0	9
Hats, Beaver and Felt	247,990	8	5	261,576	7	6	235,479	4	3
of all other sorts	69,998	7	1	50,447	11	1	45,218	9	1
Hops	131,594	0	11	109,330	12	3	119,514	9	3
Iron and Steel, wrought and unwrought	1,095,636	8	3	1,209,062	10	9	1,461,415	14	4
Lead and Shot	329,978	8	4	346,466	14	2	342,855	18	2
Leather, wrought & unwrought	403,337	4	7	396,932	4	2	456,999	10	9
Saddlery and Harness	115,853	13	6	130,830	16	6	137,451	19	3
Linen Manufactures	1,476,450	16	0	1,729,898	3	0	1,974,608	16	4
Molasses	96,713	13	7	66,435	16	7	60,209	11	5
Musical Instruments	92,497	12	5	88,071	17	0	81,425	10	11
Oil, Train, of Greenland Fishery	194,841	15	8	60,813	13	6	139,774	3	5
Plate, Plated Ware, Jewellery and Watches	302,977	11	1	354,950	18	5	417,646	15	10
Salt	152,649	12	4	156,988	4	11	240,669	0	4
Saltpetre, British refined	53,267	12	8	31,527	19	6	23,188	1	10
Seeds of all sorts	56,545	9	9	59,621	18	9	57,239	16	4
Silk Manufactures	538,164	13	11	482,756	17	10	589,585	9	5
Soap and Candles	196,594	19	3	180,063	11	8	190,483	2	3
Stationary of all sorts	195,692	1	7	217,950	4	3	223,812	17	0
Sugar, refined	2,154,775	10	7	2,502,188	10	3	2,580,348	5	8
Tin, unwrought	171,885	0	3	290,179	2	0	148,346	13	2
and Pewter Wares and Tin Plates	331,694	11	10	279,422	8	5	323,492	0	7
Tobacco, British Manufactured	12,990	4	6	9,329	5	8	18,694	9	8
Whalebone	17,448	11	0	14,604	5	5	13,156	9	9
Woollen Manufactures	8,404,528	2	3	7,958,927	15	0	9,048,886	15	10
All other Articles	3,166,322	18	6	3,166,346	14	1	3,536,885	19	5
Total Real or Declared Value of the Produce and Manufactures of the United Kingdom, exported from Great Britain to all parts of the World	£ 42,955,256	3	8	£ 43,626,253	14	2	£ 48,903,760	16	1

TABLE VIII.

NEW PROPERTY ANNUALLY CREATED IN GREAT BRITAIN AND IRELAND.

THE following estimate of the New Property annually created in Great Britain and Ireland, is extracted from DR. COLQUHOUN'S "*Treatise on the Wealth, Power, and Resources of the British Empire*," and refers to 1812.

AGRICULTURE.

<i>Grain, viz.</i>	<i>Quarters.</i>	<i>s. d.</i>	<i>£</i>
Wheat	9,170,000 at 70	6 per qr.	32,321,250
Barley	6,335,000 — 37	0 do.	11,719,750
Oats	16,950,000 — 29	0 do.	21,577,500
Rye	685,000 — 43	10 do.	1,501,291
Beans & Peas	1,860,000 — 38	10 aver. do.	3,611,500
			<hr/>
			73,734,291
Hay, Grass, Straw, and Vetches			89,200,000
Field Turnips			14,200,000
Potatoes for consumption, including potatoes for cattle and exportation			15,923,626
Garden Stuffs, estimating 15,000 acres to be in gardens, including Wall-fruit, at 40 <i>l.</i> per acre			600,000
Nurseries, about 5000 acres at 50 <i>l.</i> per acre			250,000
Orchards, about 100,000, averaging an acre each, 100,000 acres at 20 <i>l.</i>			2,000,000
Wool			5,159,707
Hops, about 100,000 acres, the produce of which at 15 <i>l.</i> per acre, would amount (including labour in hop-picking, &c.) to			1,500,000
Hemp and Flax, including the labour, . .			4,500,000
Seeds, &c. as Rape-seed, Mustard-seed, Cole-seed, and other seeds, and Liquorice, labour inclusive,			100,000
Kelp, ditto			50,000
Dung for Manure, ditto			1,000,000
Butter and Cheese, including labour in the dairy, deducting for milk, the material from which they are made,			5,000,000
Labour (exclusive of the cost of feeding) in the rearing and management of Cattle, Horses, Sheep, Pigs, Poultry, &c. may be estimated at 10 per cent. on the value of the animals sold and consumed thus :—			
300,000 Horses, at 13 <i>l.</i> 6 <i>s.</i> 8 <i>d.</i> each, 4,000,000			
210,000 Bullocks, at 20 <i>l.</i> ditto, 4,200,000			
480,000 Calves, at 5 <i>l.</i> ditto, 2,400,000			
1,900,000 Sheep & Lambs, at 2 <i>l.</i> do. 3,800,000			
450,000 Hogs, at 2 <i>l.</i> ditto, 900,000			
120,000 Sucking Pigs, at 7 <i>s.</i> ditto, 42,000			
Rabbits, Poultry, Milk, and Eggs, 658,000			
			<hr/>
			16,000,000
10 per cent. on this sum for Labour employed, including the Labour of Shepherds, Sheep-shearers, &c. is			1,600,000

Timber, annually cut down, may be estimated at 2,000,000

£216,817,624

NOTE—*Exclusive of the Seed and Dung, and other Manure, but including Labour in the Field and in Harvest, and the Labour of Ploughmen, Ploughboys, Gardeners, Carters, Wagoners, Reapers of Corn, Mowers of Grass and Corn, Nurserymen, &c.*

MINES AND MINERALS.

Coals, supposing half the Population, 8,000,000, to use one Chaldron each, including the Consumption in Forges, Furnaces, &c. and the Export, viz. 8,000,000 Chaldrons at 10 shillings per Chaldron	4,000,000
Copper	1,000,000
Iron	1,000,000
Lead, including Black Lead	1,000,000
Tin	500,000
Salt, including Alum	500,000
Brick Earth	500,000
Miscellaneous,—as Lime-stones, Building-stones, Granite, or Paving-stones, Gravel, Sand, Chalk, Slate, &c. &c.	500,000
<hr/>	
£9,000,000	

NOTE—*Including the Labour of Coal-miners, Lead-miners, Tin-miners, Copper ditto, Iron ditto, Salt-workers, Alum-workers, Lime-stone, and Chalk-quarries, Stone-quarries, Slate-quarries, Gravel-raisers, &c.*

MANUFACTURES.

The following estimates always include the Labour of the various Persons employed in all branches of the Manufactures, but invariably exclude the Value of the Raw Materials.

Cotton Goods of all kinds	23,000,000
Woollens, including Manufactures from Spanish Wool	18,000,000
Leather in Shoes, Boots, Soldiers' Belts, Cartouch-boxes, Saddlery, Harness, Carriages, and a variety of other articles	12,000,000
Linens, of various kinds,	10,000,000
Sail-cloths, and other goods in imitation of the Russia Fabric manufactured from Hemp, also Cordage, Twine, and Threads	3,000,000

Hardware and Cutlery, including Works in Copper, Brass, Pewter, Tin, Lead, Iron, Steel, and other Metals, with Pins and Needles	6,500,000	considerable number of Persons employed in building and repairing Houses annually	6,000,000
Glass, viz.—Plate Glass, and Flint, Crown, Broad, Green, and Blue Glass	2,000,000	Ship and Boat-building and repairing..	2,000,000
Earthen Ware, China, Porcelain, and various articles from Potteries	2,500,000	Millers, Mealmen, and Maltsters	2,500,000
Jewellery, Gold and Silver Plate, and Watches	2,000,000	Butchers, Bakers of Bread and Biscuit, Poulterers, Fishmongers, Pastry-cooks, and Confectioners	750,000
Paper of all sorts, Paste-board and Paper Hangings	2,000,000	Miscellaneous Trades-people, as Tailors, Mantua-makers, Milliners, Dress-makers, Sempstresses, Slop-makers, &c.	2,500,000
Books, Newspapers, &c. and Printing Apparatus	2,000,000	Fine Arts,—Paintings, Sculpture, Engravings, &c.	500,000
Silk, viz.—all sorts of Stuffs, and other articles manufactured of Silk	2,000,000		<hr/>
Painters' Colours, White-lead, Turpentine, Linseed, Rape, and other Oils	1,000,000		£114,230,000
Beer and Porter	2,000,000	INLAND TRADE.	
Cider, Perry, Sweets, and Vinegar	300,000	Warehousemen and Shopkeepers of all descriptions, for their Labour and Capital employed in collecting and vending British Manufactures of all kinds, either immediately to the Consumer, or to the Merchant for Exportation, including Foreign Goods imported, estimating 100,000, whose profits average at 150 <i>l.</i> each annually	15,000,000
Spirits of all kinds	1,950,000	Labour and Profits of Innkeepers and Publicans throughout Great Britain and Ireland, taken on the supposed number of 75,000 families, averaging 100 <i>l.</i> each	7,500,000
Beef, Pork, Butter, and other provisions	1,100,000	Proprietors of Barges, and other small Craft, employed in Rivers and Canals in the conveyance of Coals, Merchandize, and various articles, for their Profits and Interests on their capitals, which may be estimated, after deducting Wear and Tear, Men's Wages, and other Charges, at	1,500,000
Haberdashery, &c., comprising Inkles, Tapes, Fringes, and other small Wares, Sealing-wax, Wafers, and Ink	1,500,000	Aquatic Labourers in Rivers and Canals, estimating 100,000 Persons, whose average Wages at 55 <i>l.</i> per annum would amount to	5,500,000
Straw—Labour in the Manufacture of Straw into Hats, Bonnets, Toys, and various other articles	500,000	Proprietors of Coaches and Waggon, in as far as they are employed in the transit of Goods, including the labour of Persons employed in collecting Tolls on the Roads, and also the labour of Persons employed in repairing Roads, in as far as relates to the conveyance of Goods, Merchandize, &c. the Labour and Profits in all which may be estimated at	2,000,000
Gold and Silver Lace, and Gold Leaf ..	500,000		<hr/>
Dye Stuffs, including the Labour in the Manufacture of all sorts of Dye Stuffs, and in dyeing for private Families, but excluding what applies to the Manufacture of Woollens, Cottons, and other fabricated Articles	500,000		£31,500,000
Furs, Feathers, and Skins of Animals ..	50,000	FOREIGN COMMERCE AND SHIPPING.	
Hair, Hogs' Bristles, &c.	500,000	Profits on the Capital employed by Merchants, arising from the Exportation of Merchandize annually from Great Britain and Ireland on 91,795,822 <i>l.</i> being an average of the two years ended January 5th, 1810 and 1811, and from Importation on 75,602,856 <i>l.</i> being an average of the same two years, making together 167,398,678 <i>l.</i> estimated at 10 per cent., including	
Floor-cloths, Oil-cloths, &c.	30,000		
Household Furniture, as Tables, Chairs, and other Cabinet-ware, exclusive of Carpets and articles of Woollen Manufacture, and of such other articles as are included in the above-mentioned Manufactures	500,000		
Soap	450,000		
Candles	450,000		
Bricks and Tiles	700,000		
Gunpowder	300,000		
Cooperage	500,000		
Turnery-ware including the numerous articles made from Ivory, Bone, Horn, and various Woods	100,000		
Coaches, Carriages, Waggon, Carriage, and other Vehicles	800,000		
Salt and Alum	300,000		
Drugs, Chemical Preparations, and Miscellaneous Manufactures of Vitriol, Varnish, Glue, Starch, Perfumery, &c.	500,000		
Tobacco and Snuff	300,000		
Refined Sugar	250,000		
Musical Instruments, Corks, Toys, and Miscellaneous Articles	200,000		
Steam Engines, Machinery, Mills, and Mathematical Instruments	500,000		
Houses, namely, the increased value of Property created by the labour of a			

Interest of Money advanced, and exclusive of the collateral Profits arising from Foreign Commerce derived by Bankers Brokers, and others, to be hereinafter detailed	16,739,867
Underwriters on the risk of Vessels and Cargoes outwards and homewards, averaged at 4 per cent., on the value of Shipping, and the amount of Imports and Exports, amounting to 10,338,815 <i>l</i> . 10 per cent. on this sum, which may be fairly estimated as the Underwriters' gains, is	1,033,881
Ship Owners for Freight of 2,265,934 Tons of Shipping outwards, and 2,287,652 Tons homewards, between Great Britain and Ireland and all parts of the World, for an average of the years 1810 and 1811, estimated at 5 <i>l</i> . per Ton outwards, and 6 <i>l</i> . per Ton homewards, would amount to 25,055,582 <i>l</i> . ; their clear Profit on this Sum cannot be less than	4,000,000
Brokers, Factors, Agents, and others deriving from these Exports and Imports a profit, probably	1,000,000
Clerks and Labourers, namely, about 30,000 Clerks and 40,000 Labourers employed in Shipping and Landing Merchandize, whose labour may be fairly averaged at 80 <i>l</i> . per annum, each	5,600,000
Nautical Labourers, or Sailors, about 200,000, including their Provisions and Liquors: the Seamen's Wages averaged at 40 <i>l</i> . per annum, and the Provisions and Liquors at 30 <i>l</i> . for each Sailor	14,000,000
Miscellaneous Charges centering with Dock Companies and others, employed about Docks, Harbours, and Piers, and Labourers connected therewith	1 000 000
Ship-chandlery, Block-makers, Sail-makers, Artificers, and others employed in equipping and fitting out Ships:—their Labour may be estimated at	3,000,000
	<hr/> £46,373,748

COASTING TRADE.

Ships and Vessels employed in the Coast Trade of Great Britain and Ireland, including the Coal Trade, and also including their repeated Voyages:—The Proprietors' clear Profit, after deducting for Wear and Tear of their Vessels, Insurance, and all other Charges, may be estimated at	1,000 000
Aquatic Labourers employed on board of Vessels in the Coasting Trade, about 20,000, averaged for Wages and Provisions at 50 <i>l</i> . each, per annum	1,000,000
	<hr/> £2,000,000

FISHERIES.

Whale and Seal Fisheries, in the Green- and and South Seas. The expense of

Outfits, Seamen's Wages, Provisions, Wear and Tear of Ships, Insurance, &c. valued at about 10 per cent., namely, 269,551 <i>l</i> . taken from 869,551 <i>l</i> . the real value of the Imports of Oil and Whale-fins, as per Financial Accounts for 1812, leaves	600,600
British and Irish Fisheries, round the Coast of Great Britain and Ireland comprising Herrings, Pilchards, Sprats, Mackerel, Cod, Haddock, Ling, Turbot, Brills, Whittings, Soles, Plaice, Halibut, Skait, Lobsters, Crabs, Oysters, Prawns, Shrimps, and other Sea and Shell-fish for Home Consumption and Exportation	1,000,000
River Fisheries in Great Britain and Ireland, consisting of Salmon, Salmon-trout, Eels, Pike, Carp, Perch, and a variety of other Fish, after deducting the expense of fishing apparatus, &c., exclusive of the Fisheries of Newfoundland, which, being a Colonial Fishery, are mentioned in another place	500,000
	<hr/> £2,100,000

BANKS

Bankers' Profits, including the Chartered Banks of England, Scotland, and Ireland, arising from dealing in Money and Government Securities, for the accommodation of persons engaged in <i>Agricultural Pursuits, Manufactures, Foreign Commerce and Shipping, Inland Trade, Coasting Trade, Fisheries, and Foreign Income</i> ; inasmuch as all Bankers participate in the Profits derived from the above-mentioned seven sources, which have been considered in estimating the Property created under these different heads about	3,500,000
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FOREIGN INCOME.

Remittances.—Comprising Remittances of Fortunes from the East Indies and other Foreign parts, and the Produce of Estates in the West Indies for the support of Proprietors and other Persons residing in Great Britain and Ireland, about	5,000,000
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RECAPITULATION.

AGRICULTURE	216,817,624
MINES AND MINERALS	9,000,000
MANUFACTURES	114,230,000
INLAND TRADE	31,500,000
FOREIGN COMMERCE AND SHIPPING	46,373,748
COASTING TRADE	2,000,000
FISHERIES, (exclusive of the Colonial Fisheries of Newfoundland,)	2,100,000
BANKS, viz. Chartered Banks and private Banking Establishments,	3,500,000
FOREIGN INCOME	5,000,000

TOTAL £430,521,372

TABLE IX.

An Account of the ORDINARY REVENUES, and EXTRAORDINARY RESOURCES, constituting the PUBLIC INCOME of the United Kingdom of Great Britain and Ireland; for the year ending 5th January, 1819.—Ordered, by the House of Commons, to be printed, 29th March, 1819.

ORDINARY REVENUES.

<i>Heads of Revenue.</i>	<i>Gross Receipt within the Year.</i>		
	£	s.	d.
CUSTOMS, including Annual Duties, and the War Duties, made perpetual by Act 56 Geo. III. cap. 29	15,946,776	2	4½
Excise, including Annual Duties, and the War Duties, continued by Act 56 Geo. III. cap. 17, for five years	28,316,919	5	0
STAMPS	7,330,637	13	0½
LAND and ASSESSED TAXES, including the Assessed Taxes of Ireland.....	8,290,174	0	2½
POST OFFICE	2,139,263	15	5½
ONE SHILLING in the Pound on Pensions and Salaries	21,182	17	3
SIX PENCE in the Pound on Pensions and Salaries	8,923	14	4
HACKNEY COACHES	26,347	12	6
HAWKERS and PEDLARS	25,772	4	11½
POUNDAGE FEES (Ireland).....	4,100	4	10½
PELLS FEES do.....	820	0	1½
CASUALTIES do.....	3,657	8	8½
TREASURY FEES and Hospital Fee, do	1,283	4	8½
SMALL BRANCHES of the King's Hereditary Revenue	114,669	1	8
TOTAL OF ORDINARY REVENUES.....	£62,230,527	6	0½

EXTRAORDINARY RESOURCES.

PROPERTY TAX and INCOME DUTY (Arrears)	£401,214	7	6
LOTTERY, Net Profit	211,225	0	0
UNCLAIMED Dividends, &c., per Act 56 Geo. III. cap. 97	332,948	6	7
SURPLUS Fees of Regulated Public Offices.....	38,713	17	2½
VOLUNTARY Contributions.....	20,000	0	0
ON ACCOUNT of the Commissioners for issuing Exchequer Bills for Grenada, per Act 35 Geo. III. cap. 127	8,771	3	8
From several Country Treasurers in Ireland, on account of Advances made by the Treasury for improving Post Roads, for building Gaols, and under the Police Act of 54 Geo. III. (Ireland)	78,797	18	6½
IMPREST MONIES repaid by sundry Public Accountants, and other Monies paid to the Public	384,020	12	1½
<i>Loans, &c. paid into the Exchequer, viz.</i>			
Contributions to Annuities, per Act 58 Geo. III. cap. 23.	2,725,000	0	0
Contributions to Annuities towards discharging Exchequer Bills, per Act 58 Geo. III. cap. 23	8,125,000	0	0
TOTAL PUBLIC INCOME of The United Kingdom, including the Contributions to Annuities per Act 58 Geo. III. cap. 23.....	74,556,218	11	7½
ADD, Appropriated Duties for Local Objects in Ireland	54,099	8	11
GRAND TOTAL, including the Irish Appropriated Duties	£74,610,318	0	6½

TABLE X.

An Abstract of the Net PRODUCE of the REVENUE of GREAT BRITAIN, in the Years ending 5th of April, 1819, and 5th April, 1820, distinguishing the Quarters; also the Total Produce of the Consolidated Fund, the Annual Duties and War Taxes; and the Total Produce of the Customs and Excise.

REVENUE distinguishing the Consolidated Fund, the Annual Duties, & the War Taxes.	Quarters ended				Year ended	Quarters ended				Year ended
	5th July 1818.	10th Oct. 1818.	5th Jan. 1819.	5th April 1819.	5th April 1819.	5th July 1819.	10th Oct. 1819.	5th Jan. 1820.	5th April 1820.	5th April 1820.
	£.	£.	£.	£.	£.	£.	£.	£.	£.	£.
Customs	1,568,030	2,795,889	1,530,779	1,685,340	7,580,038	1,335,073	1,346,073	1,958,855	1,878,412	6,518,478
Excise	4,658,989	4,927,456	5,113,923	4,358,557	19,058,925	4,704,195	4,959,207	5,746,359	5,165,663	20,575,424
Stamps	1,599,814	1,672,165	1,530,592	1,570,757	6,375,268	1,531,723	1,575,437	1,503,322	1,453,224	6,066,706
Post Office	324,000	360,000	319,000	355,000	1,358,000	367,000	375,000	378,000	302,186	1,422,186
Assessed Taxes ..	2,208,976	787,426	2,303,778	835,246	6,135,426	2,257,960	781,448	2,301,875	873,716	6,214,999
Land Taxes	441,220	181,801	408,366	148,440	1,179,827	444,753	198,177	442,955	149,409	1,235,294
Miscellaneous	112,262	49,150	133,381	75,245	370,058	62,785	77,628	177,074	48,860	366,347
Unappropriated War Duties ...	3,198	36,454	44,735	95,797	180,184	39,461	19,252	11,491	8,544	78,748
Total Consolidated Fund	10,916,509	10,810,341	11,384,494	9,124,382	42,235,726	10,745,950	9,332,287	12,519,931	9,880,014	42,478,182
Annual Duties to Pay off Bills.										
Customs	289,114	873,865	954,885	434,010	2,531,874	909,566	1,407,029	273,018	82,291	2,671,904
Excise	106,316	134,124	299,780	82,827	623,047	118,101	127,204	72,379	.....	317,684
Pensions, &c. ....	.....	.....	16	.....	16	.....	.....	.....	.....	.....
Total Annual Duties	395,430	1,007,989	1,254,681	516,837	3,154,937	1,027,667	1,534,233	345,397	82,291	2,989,588
Permanent and Annual Duties	11,311,939	11,818,330	12,619,175	9,641,219	45,390,663	11,773,617	10,866,520	12,865,328	9,962,305	45,467,770
War Taxes.										
Excise	872,496	805,224	824,337	936,494	3,438,551	869,974	588,276	620,805	671,350	2,750,405
Property	154,439	72,249	661	.....	227,349	.....	.....	.....	.....	.....
Total War Taxes ..	1,026,935	877,473	824,998	936,494	3,665,900	869,974	588,276	620,805	671,350	2,750,405
Total Revenue, distinguishing the Consolidated Fund, the Annual Duties, and War Taxes...	12,338,874	12,695,803	13,444,173	10,577,713	49,056,563	12,643,591	11,454,796	13,486,133	10,633,655	48,218,175
Revenue, distinguishing the Customs and Excise.										
Total produce of Customs, as particularised above.	1,857,144	3,669,754	2,465,664	2,119,350	10,111,212	2,244,639	2,753,167	2,231,873	1,960,705	9,190,582
Total produce of Excise, as ditto..	5,637,801	5,866,004	6,238,040	5,377,878	23,120,523	5,692,270	5,674,667	6,439,543	5,837,013	23,643,515
Stamps, Post Office, Assessed, Property, & Land Taxes; Miscellaneous & Unappropriated Duties, and Pensions, &c. as ditto	4,843,929	3,152,245	4,740,469	3,080,485	15,824,128	4,706,682	5,026,942	4,814,717	2,635,930	15,384,260
Total Revenue, distinguishing the Customs & Excise	12,338,874	12,695,803	13,444,173	10,577,713	49,056,563	12,643,591	11,454,796	13,486,133	10,633,655	48,218,175
Deduct the Receipt upon Property & Unappropriated War Duties	157,657	108,703	45,396	95,797	407,533	39,461	19,252	11,491	8,544	78,748
Total Revenue, exclusive of Property and Unappropriated War Duties	12,181,237	12,587,100	13,398,777	10,481,916	48,649,030	12,604,130	11,435,544	13,474,642	10,625,111	48,139,427

TABLE

AN ACCOUNT of the TOTAL AMOUNT of the NATIONAL DEBT, in each year, from the the Amount of Debt redeemed, and also the TOTAL AMOUNT of unredeemed

GREAT BRITAIN.			
	Total Amount of Debt.	Debt contracted in each year.	Debt redeemed in each year inclu- ding 5 per cents 1797 paid off.
	Co. 1.	Co. 2.	Co. 3.
	£	£	£
Amount at 1st August	1786 238,231,248	—	—
Between the 1st of Aug. & 1st of Feb....	1787 238,231,248	—	662,750
	1788 238,231,248	—	1,456,900
	1789 238,231,248	—	1,506,350
	1790 238,231,248	—	1,558,850
	1791 238,231,248	—	1,587,500
	1792 238,231,248	—	1,507,100
	1793 238,231,248	—	1,962,650
	1794 244,481,248	6,250,000	2,171,405
	1795 260,157,773	15,676,525	2,804,945
	1796 311,863,471	51,705,698	3,083,455
	1797 368,809,040	56,945,569	4,390,670
	1798 394,159,040	25,350,000	6,695,585
	1799 429,783,290	35,624,250	7,779,807
	1800 451,658,290	21,875,000	20,211,571
	1801 480,703,290	29,045,000	10,281,776
	1802 536,657,603	55,954,313	9,925,739
	1803 567,008,978	30,351,375	8,846,450
	1804 583,008,978	16,000,000	12,409,854
	1805 603,925,792	20,916,814	11,951,711
In this and the following years the	1806 640,752,103	36,826,311	12,673,475
Debt is shown, after deducting	...1807 670,632,103	29,880,000	11,085,017
the 5 per cents 1797, paid off	1808 689,005,303	18,373,200	14,672,717
in each year	1809 702,698,556	13,693,253	14,728,227
	1810 723,975,678	21,278,122	15,061,321
Includes Loan 1811, raised for	1811 743,787,785	19,811,107	16,106,263
Ireland, chargeable on Great	...1812 773,032,496	a/29,244,711	18,622,590
Britain	1813 813,775,527	40,743,031	21,816,457
	1814 907,495,950	93,720,423	24,763,646
	1815 932,281,580	24,705,930	19,799,863
	1816 1,003,090,282	70,888,402	20,647,122
Great Britain and Ireland	1817 1,006,090,282	3,000,000	19,546,201
consolidated by 65 Geo.	5th Jan.* 1818 1,109,123,032	—	18,512,227
3. c. 98.			

(a) The above Debt of Ireland, is exclusive of £1,900,900 Irish 5 per cents. payable in England.

* By 57th Geo. III. c. 42, the Sinking Fund Accounts terminate on the 5th January in each year, instead of the 1st February as heretofore.

Note.—The above Sums in Columns 1, 2, and 3, after the year 1806, differ from the return made from this Office on the 13th February last, in consequence of the 5 per cents. 1797, paid off, being included in this Account.

National Debt Office, }
17th April, 1818. }

XI.

1st February 1786, to the 5th Jan. 1818; stating the Amount of Debt contracted, Debt in each of those years. Ordered to be printed, 27th April 1818.

IRELAND, Funded in GREAT BRITAIN.				
Total unredeemed Debt. Co. 4.	Total Amount of Debt. Co. 5.	Debt contracted in each Year. Co. 6.	Debt redeemed in each Year. Co. 7.	Total unredeemed Debt. Co. 8.
£	£	£	£	£
238,231,248	—	—	—	—
237,568,498	—	—	—	—
236,111,598	—	—	—	—
234,605,218	—	—	—	—
233,046,398	—	—	—	—
231,458,898	—	—	—	—
229,951,798	—	—	—	—
227,989,148	—	—	—	—
232,064,743	—	—	—	—
244,936,323	—	—	—	—
293,558,566	—	—	—	—
346,113,465	—	—	—	—
364,767,880	2,925,000	2,925,000	15,404	2,909,596
392,612,323	6,925,000	4,000,000	96,530	6,813,066
394,275,752	12,175,000	5,250,000	130,185	11,932,881
413,038,977	15,315,000	3,140,000	233,360	14,839,521
459,067,551	19,708,750	4,393,750	310,928	18,922,343
480,572,476	22,348,000	2,639,250	337,008	21,224,585
484,162,622	25,548,000	3,200,000	472,256	23,952,329
493,127,726	33,738,000	8,190,000	579,428	31,562,901
517,280,561	38,898,000	4,660,000	738,849	35,484,052
533,075,543	41,718,000	3,820,000	807,393	37,996,659
536,776,026	47,139,625	5,421,625	907,585	42,510,699
535,741,032	50,094,000	2,951,375	951,463	44,513,611
541,957,854	53,694,000	3,600,000	1,013,577	47,100,034
545,662,698	61,274,250	7,580,250	1,135,716	53,544,568
556,284,819	61,274,250	Included in Gt. Britain.	1,356,276	52,188,292
575,211,392	68,930,250	7,656,000	1,567,541	58,276,751
644,168,169	79,130,250	10,200,000	1,798,434	66,678,317
649,074,235	86,472,750	7,342,500	1,812,122	72,208,695
699,315,516	103,032,750	16,560,000	2,316,690	86,452,005
682,769,314	103,032,750	—	2,507,101	83,944,904
748,201,991	—	—	—	—

The Sums in Columns 3 and 7 have been redeemed,
and transferred as follows :

By the Sinking Fund	328,274,369
Land Tax	25,389,233
Life Annuities purchased	4,323,385
Stock, the Dividends due upon which have remained } unclaimed 10 years and upwards.....	222,037
Purchased with unclaimed Dividends.....	348,600

358,557,624
5 per cents 1797 paid off.... 4,363,417

360,921,041 } The Sums in Columns 3 and 7 amount to
£360,921,040. The difference arises from the
fractional parts of a pound being omitted.

TABLE XII.

An Account of the total Amount of GOLD and SILVER coined in each year, from the commencement of the reign of GEORGE III., to the 1st of January, 1818. Ordered by the HOUSE of COMMONS to be printed, 6th of April, 1818.

GOLD.				SILVER			
Year.	Value.			Year.	Value.		
	£	s.	d.		£	s.	d.
1760	111,325	10	6	1790	2,660,521	10	0
1	550,887	15	0	1	2,456,566	17	6
2	553,691	5	0	2	1,171,863	0	0
3	513,040	10	0	3	2,747,430	0	0
4	883,102	10	0	4	2,558,894	12	6
5	538,272	0	0	5	493,416	0	0
6	820,724	12	6	6	464,680	2	6
7	1,271,807	15	6	7	2,000,297	5	0
8	844,554	7	6	8	2,967,504	15	0
9	626,582	5	0	9	449,961	15	0
1770	623,778	15	0	1800	189,937	2	6
1	637,796	5	0	1	460,242	2	0
2	843,853	10	0	2	437,018	18	6
3	1,317,645	0	0	3	596,444	12	6
4	4,685,623	11	2	4	718,396	17	6
5	4,901,218	17	6	5	54,668	5	0
6	5,006,350	2	6	6	405,105	15	0
7	3,680,995	10	0	7	—	—	—
8	350,437	10	0	8	371,744	2	0
9	1,696,117	10	0	9	298,946	11	0
1780	—	—	—	1810	316,935	11	6
1	876,794	12	6	11	312,263	3	6
2	698,074	7	3	12	—	—	—
3	227,083	2	10	13	519,722	3	6
4	822,126	7	6	14	—	—	—
5	2,488,106	5	0	15	—	—	—
6	1,107,582	10	0	16	—	—	—
7	2,849,056	17	6	17	4,275,337	10	0
8	3,664,174	10	0	Total	£71,639,213	6	9
9	1,530,711	0	0				
				1760	—	—	—
				1	31	0	0
				2	3,162	0	0
				3	2,628	16	0
				4	15	10	0
				5	18	12	0
				6	297	12	0
				7	—	—	—
				8	—	—	—
				9	—	—	—
				1770	68	4	0
				1	—	—	—
				2	334	16	0
				3	—	—	—
				4	—	—	—
				5	—	—	—
				6	315	8	6
				7	—	—	—
				8	—	—	—
				9	254	4	0
				1780	—	—	—
				1	62	0	0
				2	—	—	—
				3	—	—	—
				4	202	11	0
				5	—	—	—
				6	—	—	—
				7	55,499	0	0
				8	—	—	—
				9	—	—	—
				Total	£4,306,120	8	10

TABLE XIII.

A Statement of the Number of PERSONS COMMITTED to the different GAOLS in ENGLAND and WALES, for TRIAL at the Assizes and Sessions held for the several Counties, Cities, Towns, and Liberties therein, from the Year 1805 to the Year 1817, both inclusive : distinguishing the Number in each Year CONVICTED, ACQUITTED, against whom NO BILLS were found, and who were NOT PROSECUTED ; together with the SENTENCES of those CONVICTED, and the Number EXECUTED.—Ordered, by the HOUSE OF COMMONS, to be printed, 5th June, 1818.

COMMITTED for Trial in the Years	...	...	1805	1806	1807	1808	1809	1810	1811	1812	1813	1814	1815	1816	1817
Viz. MALES	...	...	3267	3120	3159	3332	3776	3733	3859	4891	5435	4826	6036	7347	11,758
FEMALES	...	...	1338	1226	1287	1403	1554	1413	1478	1685	1731	1564	1782	1744	2174
Total	...	...	4605	4346	4446	4735	5330	5146	5337	6576	7164	6390	7818	9091	13,932
CONVICTED and SENTENCED															
To Death	...	...	*350	*325	*343	*338	*392	*476	*404	*532	*713	*558	*555	*890	*1302
Transportation for Life	...	...	—	—	—	3	7	12	29	25	50	53	38	60	103
14 Years	...	...	34	26	46	37	50	31	34	67	95	78	94	133	157
7 Years	...	...	561	496	500	467	581	526	500	588	622	625	826	861	1474
Imprisonment (for various Terms)	...	...	1680	1556	1545	1747	2045	1965	2049	2506	2759	2574	3218	3663	5700
Whipping, and Fine	...	...	158	112	133	131	163	148	147	195	183	137	151	190	320
Convicted	...	...	2783	2515	2567	2723	3238	3158	3163	3913	4422	4025	4883	5797	9056
Acquitted	...	...	1092	1065	1078	1126	1205	1130	1234	1494	1451	1373	1648	1884	2678
No Bill found, and Not Prosecuted	...	...	730	766	801	886	887	858	940	1169	1291	992	1287	1410	2198
Total	...	...	4605	4346	4446	4735	5330	5146	5337	6576	7164	6390	7818	9091	13,932
* Of whom were Executed.			68	57	63	39	60	67	45	82	120	70	57	95	115

OFFENCES	Years as above	1805	1806	1807	1808	1809	1810	1811	1812	1813	1814	1815	1816	1817
For which the Executions took place.														
Arson, and other wilful Burning of Property	...	2	—	—	1	—	—	1	5	3	3	1	2	8
(A Bankrupt) concealing his Effects	...	—	—	—	—	—	—	—	—	1	—	—	—	—
Burglary, and Housebreaking	...	15	6	17	6	13	18	13	15	39	8	10	19	13
Cattle Stealing	...	—	1	—	—	—	1	—	—	—	—	—	—	—
Maliciously Killing	...	—	—	—	—	—	—	—	1	—	—	—	—	—
Coin, Uttering Counterfeit (having been before convicted as a Common Utterer)	...	—	—	—	—	—	1	—	—	—	—	—	—	—
Coining	...	3	4	—	1	—	—	—	—	1	—	—	—	—
Forgery, and uttering forged Instruments	...	13	11	13	5	19	18	8	23	17	6	11	13	18
Falsely personating, &c.	...	—	2	—	—	1	—	—	—	—	—	—	—	—
Horse Stealing	...	7	4	4	1	1	4	2	3	4	3	1	—	—
Larceny in a Dwelling House, to the Value of 40s.	...	2	2	1	—	1	1	—	—	—	2	—	3	1
— on a Navigable River, to the Value of 40s.	...	—	—	—	—	—	—	—	3	—	—	—	2	—
Letters containing Bank Notes, Secreting and Stealing	...	—	—	—	—	—	—	1	—	1	—	—	—	—
Mail Robbery	...	—	—	—	—	—	—	—	—	2	—	—	—	—
Murder	...	10	5	16	8	9	9	7	16	25	23	15	21	25
Shooting, Stabbing, and administering Poison, with intent to, &c.	...	2	5	1	4	7	2	3	3	2	2	1	4	12
Piracy	...	—	—	—	—	—	—	—	—	—	—	—	4	—
Robbery on the Person on the Highway, and other Places	...	4	5	4	7	3	6	3	6	12	11	7	16	19
Rape	...	5	2	2	3	4	1	3	3	4	3	7	4	5
Riot, and feloniously demolishing Buildings	...	—	—	—	—	—	—	—	—	5	—	—	—	—
Sheep Stealing	...	5	3	3	1	—	1	2	1	2	3	3	—	5
Sodomy	...	—	6	—	2	2	4	2	1	1	5	1	2	1
Treason, High	...	—	—	—	—	—	—	—	2	1	—	—	—	3
Transports being at large, &c.	...	—	1	2	—	—	1	—	—	—	—	—	—	—
Trees growing in a Plantation for Profit, &c. unlawfully and maliciously cutting down and destroying	...	—	—	—	—	—	—	—	—	—	1	—	—	—

OBSERVATIONS:	Years as above	1805	1806	1807	1808	1809	1810	1811	1812	1813	1814	1815	1816	1817
Proportion of Capital Convictions, to the Number														
Committed for Trial, in each Year, ... about		1 in 13	1 in 13	1 in 13	1 in 14	1 in 14	1 in 11	1 in 13	1 in 12	1 in 10	1 in 11	1 in 14	1 in 10	1 in 10
Proportion of the Whole Number, as above, in the Thirteen Years,—about 1 in 12.														
Proportion of Executions to the Number Capitally														
Convicted, in each Year,— ... about		1 in 5	1 in 5	1 in 5	1 in 8	1 in 6	1 in 7	1 in 9	1 in 6	1 in 6	1 in 8	1 in 9	1 in 9	1 in 11
Proportion of the Whole Number, as above, in the Thirteen Years,—about 1 in 7.														

TABLE XIV.

A Statement of the Number of PERSONS COMMITTED for TRIAL to the different GAOLS in ENGLAND and WALES, from the Year 1805 to the Year 1817, both inclusive: distinguishing the Number committed in each County, in each Year.—Ordered, by the HOUSE of COMMONS, to be printed, 5th June, 1818.

IN THE YEARS					1805	1806	1807	1808	1809	1810	1811	1812	1813	1814	1815	1816	1817
ANGLESEA ...	...	...	...	...	1	3	6	2	1	1	1	—	1	2	2	4	1
BEDFORD ...	...	...	...	...	20	20	18	22	17	22	27	17	34	27	20	43	44
BERKS ...	...	...	...	...	62	42	46	38	48	53	63	103	79	83	77	103	146
BRECON ...	...	...	...	...	7	12	18	6	2	5	3	5	13	11	15	8	43
BUCKS ...	...	...	...	...	33	40	44	23	37	47	37	33	64	47	50	65	75
CAMBRIDGE ...	...	...	...	...	40	26	31	33	29	19	21	34	45	37	61	71	98
CARDIGAN ...	...	...	...	...	2	7	1	2	—	3	3	1	1	4	7	—	14
CAERMARTHEN ...	...	...	...	...	8	16	3	7	1	10	11	10	6	8	12	17	14
CAERNARVON ...	...	...	...	...	6	4	7	—	3	2	3	2	8	3	12	3	10
CHESTER ...	...	...	...	...	80	101	78	128	130	63	99	155	146	136	160	187	265
CORNWALL ...	...	...	...	...	43	43	48	38	30	33	31	43	42	39	54	84	120
CUMBERLAND ...	...	...	...	...	18	12	29	35	33	32	17	53	42	23	28	31	39
DENBIGH ...	...	...	...	...	2	4	3	6	3	9	8	7	11	10	5	13	31
DERBY ...	...	...	...	...	39	30	26	20	46	37	37	60	71	33	37	60	165
DEVON ...	...	...	...	...	96	132	133	150	141	117	152	179	197	235	261	264	360
DORSET ...	...	...	...	...	38	41	39	43	42	37	44	47	63	43	62	81	122
DURHAM ...	...	...	...	...	27	29	26	40	53	35	37	33	33	33	49	53	87
ESSEX ...	...	...	...	...	144	118	169	119	151	163	130	152	221	174	191	236	319
FLINT ...	...	...	...	...	4	3	7	6	2	5	2	3	4	3	6	7	20
GLAMORGAN ...	...	...	...	...	13	12	16	18	6	12	18	13	26	20	15	22	50
GLOUCESTER (BRISTOL)	...	...	...	...	104	84	83	73	103	125	109	135	173	139	167	243	442
HANTS ...	...	...	...	...	37	52	49	41	56	49	68	78	68	70	98	104	166
HEREFORD ...	...	...	...	...	147	147	148	153	192	106	157	234	206	228	217	268	378
HERTS ...	...	...	...	...	31	41	53	31	40	47	66	83	79	61	51	87	174
HUNTINGDON ...	...	...	...	...	43	52	31	63	41	61	50	109	61	61	80	81	133
KENT ...	...	...	...	...	15	11	13	12	9	4	8	11	13	21	23	13	13
KILT ...	...	...	...	...	210	181	191	220	212	224	210	281	330	260	327	323	528
LANCASTER ...	...	...	...	...	371	331	336	480	532	563	661	831	830	816	971	1212	1946
LEICESTER ...	...	...	...	...	47	32	38	53	51	53	57	63	77	43	71	123	170
LINCOLN ...	...	...	...	...	50	64	71	88	73	68	65	81	102	116	136	133	232
MERIONETH ...	...	...	...	...	—	1	—	6	—	1	2	2	3	1	3	6	9
MIDDLESEX ...	...	...	...	...	1217	1132	1228	1330	1445	1424	1482	1663	1707	146	2095	2226	2636
MONMOUTH ...	...	...	...	...	20	17	10	6	15	17	18	21	16	26	24	19	59
MONTGOMERY ...	...	...	...	...	13	13	11	8	12	11	5	13	18	8	9	11	49
NORFOLK ...	...	...	...	...	163	119	135	134	129	118	143	137	162	119	163	244	310
NORTHAMPTON ...	...	...	...	...	42	58	24	43	35	31	51	51	63	60	81	73	115
NORTHUMBERLAND ...	...	...	...	...	38	39	43	21	37	37	71	31	73	68	69	88	80
NOTTINGHAM ...	...	...	...	...	74	70	72	89	93	67	78	103	92	88	121	112	191
OXFORD ...	...	...	...	...	38	34	46	27	53	32	31	39	70	56	66	85	118
PEMBROKE ...	...	...	...	...	12	5	3	8	2	8	7	12	8	8	19	18	29
RADNOR ...	...	...	...	...	6	1	1	5	4	9	6	5	6	2	3	13	13
RUTLAND ...	...	...	...	...	4	8	6	4	4	2	5	4	9	1	11	12	9
SALOP ...	...	...	...	...	79	72	33	59	67	60	79	53	92	69	90	96	267
SOMERSET ...	...	...	...	...	106	103	66	103	124	118	108	201	133	139	221	241	439
STAFFORD ...	...	...	...	...	91	87	91	17	109	134	126	130	181	118	134	197	425
SUFFOLK ...	...	...	...	...	109	116	168	166	131	116	98	146	144	112	116	133	262
SURREY ...	...	...	...	...	129	191	156	133	213	243	208	296	279	253	391	366	491
SUSSEX ...	...	...	...	...	103	6	73	43	63	66	74	93	116	66	101	130	189
WARWICK ...	...	...	...	...	160	130	134	142	183	169	178	177	263	224	277	341	624
WESTMORELAND ...	...	...	...	...	6	6	6	8	6	1	5	9	8	6	13	18	14
WILTS ...	...	...	...	...	73	72	72	39	81	70	73	92	122	76	108	67	229
Worcester ...	...	...	...	...	51	67	54	71	71	66	84	78	109	104	130	120	239
YORK ...	...	...	...	...	243	213	192	243	316	218	206	304	403	337	333	420	748
Total ...	...	...	...	...	4603	4346	4446	4735	5330	5146	5337	6376	7161	6390	7816	9091	13,932

Whitehall,
5 June, 1818.

H. HOBBHOUSE.

TABLE XV.

Showing the PROPORTION which the number of Persons committed to prison in each County of ENGLAND and WALES, bears to the whole Population of the County, and thus illustrating the influence of local circumstances on the morals of the people. The average of the commitments is taken for 13 years, viz. from 1805 to 1817 inclusive, and the population, as stated in the Returns of 1811.

Counties.	One in	Counties.	One in	Counties.	One in
Anglesea	18,522	Flint	8,399	Northumberland	3,037
Bedford	2,638	Glamorgan	4,551	Nottingham	1,694
Berks	1,618	Gloucester	1,834	Oxford	2,161
Brecon	3,384	Hants	1,280	Pembroke	5,669
Bucks	2,562	Hereford	1,438	Radnor	3,672
Cambridge	2,386	Herts	1,636	Rutland	2,696
Cardigan	13,612	Huntingdon	1,431	Salop	2,268
Caernarthen	7,348	Kent	1,385	Somerset	1,369
Caernarvon	9,867	Lancaster	1,083	Stafford	1,988
Chester	1,688	Leicester	2,161	Suffolk	1,731
Cornwall	4,287	Lincoln	2,164	Surrey	1,261
Cumberland	3,904	Merioneth	3,577	Sussex	2,422
Denbigh	7,077	Middlesex	588	Warwick	969
Derby	3,435	Monmouth	2,469	Westmoreland	5,642
Devon	1,996	Montgomery	3,534	Wilts	1,969
Dorset	2,292	Norfolk	1,809	Worcester	1,668
Durham	4,337	Northampton	2,405	York	3,002
Essex	1,435				

For the whole of England, the proportion is 1 in 1483, for Wales, 1 in 6213; and for both England and Wales, 1 in 1554.

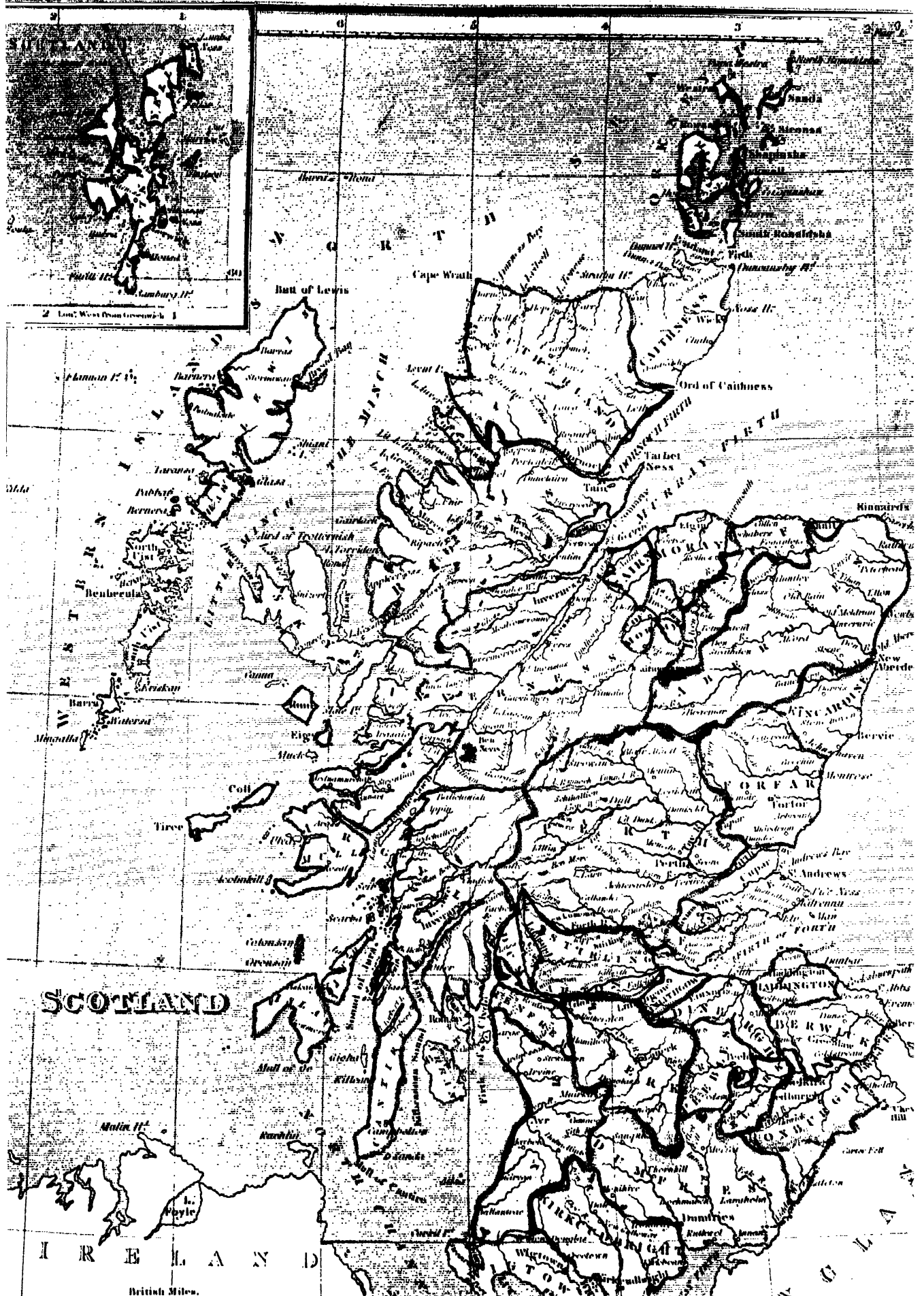
TABLE XVI.

Latitudes and Longitudes of the principal Towns, Light-houses, and other remarkable objects in England and Wales.

Many of these Latitudes and Longitudes have been accurately determined in the course of the Trigonometrical Survey carried on by order of the Board of Ordnance, under the superintendence of the late Major-General Mudge.—All the Latitudes in England and Wales are *North*, but the Longitudes are both *East* and *West*, from the meridian of the Royal Observatory

	Latitude.			Longitude.				Latitude.			Longitude.		
	°	'	"	°	'	"		°	'	"	°	'	"
Aberystwith	52	25	49N	4	2	0W	Caldy Island, Woolhouse	51	37	56	4	39	56W
Air Point, Light-house	53	21	28	3	18	35W	Cambridge, St. Mary's Steeple	52	12	43	0	7	34E
Alban's, St.(St. Peter's Steeple)	50	45	19	0	19	31W	Canterbury, Cathedral	51	18	26	1	5	8E
Andover, Steeple	51	12	59	1	28	19W	Cardiff	51	30	0	3	17	30W
Ann's, St. Light-house	51	40	59	5	9	19W	Cardigan Steeple	52	4	59	4	58	18W
Appleby, Church	54	34	0	2	59	30W	Carlisle	54	56	0	3	25	30W
Asaph, St. Cathedral	53	23	28	3	25	44W	Chatham	51	22	0	0	30	30E
Aylesbury Steeple	51	49	3	0	48	41W	Chelmsford	51	43	0	0	27	30E
Axminster	50	40	0	3	13	30W	Cheltenham Steeple	51	54	7	2	4	6W
Bala	52	50	0	3	40	30W	Chester, Trinity Spire	53	11	26	2	53	1W
Baldock, Telegraph	51	58	36	0	10	35W	Chester-le-street, Spire	54	51	28	1	33	49W
Bangor	53	12	0	4	17	32W	Chichester	50	50	0	0	44	0W
Bath	51	22	30	2	21	15W	Collampton Steeple	50	51	24	3	22	43W
Beaconsfield Spire	51	36	3	1	37	44W	Coquet Island, Light-house	55	20	11	3	11	47W
Beaumaris	53	15	0	4	20	28W	Cranborne Steeple	50	55	9	1	55	0W
Beckford Steeple	52	1	17	2	1	41W	Croydon Steeple	52	7	57	0	4	45W
Bedford	52	13	5	0	35	32W	Daventry Spire	52	15	39	1	9	3W
Berwick-upon-Tweed, Spire	55	46	21	1	59	41W	Dauids, St. Cathedral	51	52	56	5	11	53W
Bidston Light-house	53	24	6	3	3	46W	Deal	51	13	5	1	23	59E
Biggleswade Spire	52	5	12	0	15	55W	Denbigh	53	10	0	3	40	84W
Birmingham	52	30	0	1	55	31W	Derby Steeple	52	55	32	1	28	16W
Bishop Wilton, Spire	53	59	16	0	47	6W	Devizes, St. John's Steeple	51	21	15	1	59	6W
Blanford Telegraph	50	53	1	2	6	8W	Dorchester	50	42	57	2	25	25W
Brecknock	51	54	0	3	27	30W	Dover Castle	51	7	47	1	18	20E
Brighton	50	32	3	0	11	20W	Durham Cathedral	54	46	21	1	34	6W
Bristol	51	28	5	2	41	30W	Ely Minster	52	24	49	0	16	35E
Buckingham Spire	51	59	53	0	59	5W	Exeter Cathedral	50	43	25	3	31	0W
Buxton	52	48	0	1	45	28W	Farnham Steeple	51	32	6	0	56	41W
Caernarthen, west end	51	51	10	4	18	48W	Flint	53	16	0	3	7	25W
Caernarvon	53	8	15	4	25	0W							

	Latitude.			Longitude.				Latitude.			Longitude.		
	°	'	"	°	'	"		°	'	"	°	'	"
Gloucester Cathedral	51	52	3	2	14	15W	Norwich	52	40	0	1	14	50E
Greenwich, Royal Observatory	51	28	40	0	0	0	Nottingham Steeple	52	57	8	1	8	14W
Guildford Steeple	51	14	2	0	34	0W	Oakham	52	42	0	0	57	17W
Hartlepool Steeple	54	41	49	1	10	31W	Ormskirk Steeple	53	54	12	2	52	36W
Hatfield Spire	53	58	3	1	43	30W	Oxford	51	45	40	1	15	30W
Hatfield Spire, York	53	33	47	1	5	27W	Pembroke	51	43	5	4	50	0W
Haverfordwest Spire	51	48	12	4	57	11W	Penrith Beacon	54	40	87	2	43	59W
Headen Steeple	52	2	22	0	5	39E	Peterborough Cathedral	52	35	40	0	14	45W
Henley Steeple	51	32	21	0	53	48W	Plymouth	50	22	24	4	8	10W
Hereford	52	4	0	2	40	1W	Portsdown Telegraph	50	51	13	1	3	3W
Hertford	51	50	10	0	4	30E	Portsmouth, Lord's House	51	13	50	1	21	50W
Hinton Steeple, Somerset	51	19	26	2	18	47W	Prescot Spire	53	25	45	2	47	44W
Hinton Steeple, Dorset	50	56	40	2	17	46W	Presteigne	52	13	0	2	43	30W
Howden Steeple	53	44	46	1	12	26W	Radnor	52	10	0	2	45	0W
Hull	53	50	0	0	28	0W	Ramsey Steeple	52	27	57	0	6	9W
Huntingdon Steeple	52	20	27	0	11	3W	Reading	51	28	0	0	57	34W
Ichester Steeple	51	0	23	2	40	14W	Retford (East) Spire	53	23	58	0	54	3W
Ilton Steeple	50	57	11	2	54	43W	Rippon Church	54	8	11	1	30	47W
Ipswich	52	8	0	1	10	30E	Royston Steeple	52	2	53	0	1	9W
Ive's, St. Steeple	52	20	19	0	4	45W	Salisbury Spire	51	3	56	1	47	24W
Kelsal Steeple	52	0	29	0	3	51W	Scarborough Castle	54	18	0	0	25	25W
Kidwelly Spire	51	44	10	4	17	20W	Selby Steeple	53	47	7	1	3	42W
Kingston Steeple	50	18	54	3	51	40W	Shaftesbury, Trinity Steeple	51	0	24	2	11	25W
Kirby Spire	53	5	55	1	15	48W	Sheffield	53	20	0N	1	34	0W
Kirbylonsdale	54	12	18	2	35	15W	Sherborne Steeple	50	56	50	2	30	26W
Lancaster Steeple	54	5	8	2	47	41W	Shields (North) Steeple	55	0	48	1	26	27W
Launceston	50	40	10	4	41	27W	Shrewsbury, St. Chad's Steeple	52	42	28	2	44	53W
Leasowes Light-house	53	24	50	3	6	49W	Shuckburgh Steeple	52	15	10	1	16	3W
Ledbury Steeple	52	2	16	2	24	38W	Skiddaw	54	39	12	3	18	9W
Leeds	53	13	49	1	34	0W	Smalls, Light-house	51	43	18	5	58	34W
Leicester	52	38	0	1	8	50W	Snowdon, highest point	53	4	9	4	3	58W
Lewes	50	55	0	0	10	30W	Southampton	50	25	0	1	31	30W
Lincoln Minster	53	14	7	0	52	1W	Stafford	52	48	0	2	9	29W
Litchfield Spire	52	41	12	1	49	21W	Stretham Steeple	52	52	17	0	50	53W
Liverpool, St. Paul's	53	24	40	2	58	55W	Sunderland Light-house	54	55	12	1	21	16W
Llandilo Steeple	51	52	55	3	58	37W	Swaffham Spire	52	15	35	0	18	39E
Llanelli Steeple	51	41	24	4	8	41W	Swansea Castle	51	37	13	3	55	32W
Llanstephan Castle	51	45	57	4	22	25W	Tame Steeple	51	45	3	0	58	38W
Llantressant Steeple	51	32	32	3	21	50W	Taunton, St. Mary's Steeple	51	0	39	3	5	22W
Laugharn Steeple	51	46	34	4	26	43W	Tenby Spire	51	40	20	4	40	52W
London, St. Paul's	51	30	49	0	5	30W	Tewkesbury Spire	51	59	27	2	9	7W
Loughborough Steeple	52	46	31	1	11	54W	Thorne Steeple	53	36	45	0	56	8W
Loughton Spire	53	23	21	1	13	7W	Totness Spire	50	25	57	3	40	29W
Lundy Isle, St. Ann's Chapel	51	9	47	4	38	28W	Trowbridge Spire	51	19	8	2	11	57W
Lutterworth Steeple	52	27	20	1	12	1W	Tunbridge	51	14	0	0	14	30E
Lindhurst Steeple	50	52	25	1	34	19W	Tynmouth Light-house	55	1	21	1	24	31W
Lynn, Old Tower	52	46	52	0	25	4E	Wakefield Spire	53	41	2	1	29	24W
Maidstone	51	16	0N	0	32	30E	Waltham Spire	52	49	5	0	48	21W
Manchester, St. Mary's Spire	53	29	0	2	14	22W	Wareham Steeple	50	41	5	2	5	56W
Matlock	53	10	0	1	33	50W	Warrington Steeple	53	23	30	2	23	11W
Melbourne Steeple	52	5	10	0	1	11E	Warwick	52	18	0	1	35	30W
Melkham Steeple	51	22	22	2	7	58W	Watford Spire	51	39	16	0	23	36W
Merthyr Tydvil	51	48	0	3	53	23W	Wellington Steeple	50	58	54	3	12	49W
Michael's, St. Mount	50	7	2	5	27	35W	Whitchurch Steeple	51	52	51	0	49	49W
Milford Steeple	51	42	43	5	20	15W	Whitehaven	54	32	50	3	34	56W
Minhead Steeple	51	12	42	3	28	4W	Whittlesea Spire	52	34	36	0	7	46W
Monmouth	51	49	0	2	31	33W	Wilton	51	5	0	1	57	30W
Montgomery	52	26	7	3	10	30W	Winchester Cathedral	51	3	40	1	18	26W
Mumbles Light-house	51	34	0	3	57	20W	Wisbeach Steeple	52	41	23	0	10	15E
Naseby Steeple	52	23	52	0	59	3W	Woburn Abbey	51	54	47	0	55	44W
Newark Steeple	53	4	30	0	49	18W	Wolverhampton Spire	52	34	54	2	7	10W
Newbury Steeple	51	24	5	1	19	9W	Worcester	52	9	30	2	0	0W
Newcastle	55	3	0	1	33	30W	Workington Chapel	54	38	34	3	33	30W
Newmarket	52	15	28	0	27	12E	Yarmouth	52	45	0	2	0	30E
Northampton	52	11	0	1	16	32W	Yeovil Steeple	50	56	30	2	37	1W
Northwich	53	16	0	2	41	31W	York Minster	53	57	48	1	4	34W



SCOTLAND.

CHAPTER I.

Name—Situation—Boundaries—Extent—Population—Original Inhabitants—Progressive Geography—Present Division, and Distribution of the Inhabitants.

THE earliest discrimination between this country and South Britain, is found in the pages of Tacitus, who distinguishes it by the appellation of *Caledonia*, supposed to be a native term. In a subsequent age, the venerable *Bede* calls the country *Provincia Pictorum*, and the inhabitants *Picti*. Alfred the Great, who translated Bede's history from Latin into Anglo-Saxon, styles the people *Peothes*, and the country *Peothland*, which was doubtless given to that part of Britain, from the inhabitants being considered as the descendants of a colony of Norwegians, who were thus designated. In the 11th century, the modern name of *SCOTIA*, or *SCOTLAND*, was transferred from Ireland, to which it had been originally applied, and by this title it is mentioned by Adam de Bremen.

Scotland, which is divided from England by the Solway Firth and the Cheviot Hills, lies nearly between the 55th and 59th degrees of north latitude, and the 2d and 6th degrees of west longitude. It is bounded on all sides by the ocean, except where it joins England : it is about 290 miles long, and varies in breadth from 50 to 150 miles. Its shape is very irregular, and its outlines greatly indented by the sea. The superficial extent of Scotland is computed at 27,793 square miles, which is rather more than the extent of Ireland, but only half that of England. The population, at the last census, was 1,805,688, making the number of persons to a square mile, nearly 65, which is not more than a third of the number in England and Ireland, on the same space. This difference arises from the great proportion of uncultivated lands north of the Tweed.

At what period Scotland was first peopled, is too much involved in obscurity to be ascertained with certainty. According, however, to the conclusion of Mr. Chalmers, who has exercised much learned ingenuity, and employed much laborious research on the subject, the original inhabitants of North Britain, were the "same Gaelic Clans who very early settled in South Britain." The Caledonians, he asserts, were the descendants of those Gaelic aborigines, who, in various ages, assumed new shapes, and appeared in dissimilar lights. The Picts of subsequent ages, he considered as the same people with the Caledonians of former days, under a new name. A body of Gothic Angles, during the 5th century, colonized the banks of the Tweed, and extended their settlements along the Forth. "In the effluxion of ages, they sent out their colonies beyond the Forth, the Tay, and the

Dee; they were augmented by the arrival of Anglo-Normans from the south; they admitted settlements of kindred Flemings every where within North Britain, and, with the augmentation of their numbers, acquiring the ascendancy with the government, they dictated their language, their laws, and their manners, within every district of proper Scotland.

“A Gaelic colony of a somewhat different tongue, a detachment from the *Scoticæ Gentes* of Ireland, the *Dalraids* of Bede, and the *Attacotti* of the Romans, arrived in Argyle, at the commencement of the 6th century; and, by a gradual progress, overspread the land from west to east, gave their laws and their name to the ancient Pictish people, whose language became amalgamated with the kindred dialect of the Irish.—Thus, at the beginning of the 12th century, Scotland was inhabited by the Celtic descendants of the aboriginal Britains, by the Gaelic Scots, who had overspread the land, by the Anglo-Saxons of Lothian, and by the Gothic Scandinavians, on the coast of Caithness. At that epoch, a new, but mixed people, came in upon all those Celts and Goths. Anglo-Saxons, and Anglo-Normans, English and Flemings, settled in every district in Scotland; and by a slow progress, became the respectable progenitors of the present inhabitants who speak the English tongue, which is not older than the 12th century.”—*Chalmers's Caledonia*.

The division of the Scottish population into *Highlanders* and *Lowlanders*, has long been distinctly acknowledged, and their different derivations, above pointed out, are sufficient to account for the diversity which is observed in their habits, manners, language, and customs.

Authentic documents respecting the PROGRESSIVE GEOGRAPHY of Scotland, are extremely scanty. In Ptolemy's map, which was the production of the second century, the shape of the country is greatly distorted, and its situation erroneous, the Mull of Galloway being represented as the most northerly point, from which the coast stretched due east. In the distribution of the tribes that composed its early population, this eminent geographer is much more correct. These chiefly occupied the regions bordering on the coast, as the *Sylva Caledonia* then spread over the interior. The Roman province of *Valentia* comprised that part of the country south of the Clyde and Forth; and the name of *Vespasiana* was, from about the year 140 to 170, applied to the region between the Forth and Loch Ness. A few remains of Roman roads, however, supply the chief evidence of their having once possessed that part of the island.

After the lapse of several centuries, an approximation to the present names and divisions begins to appear. In the middle ages, the Scottish monarchs extended their conquests over the north of England. At a subsequent period, the appellation of Albany was applied to the regions north of the Forth and the Clyde; and in the year 1200, a work, entitled *Descriptio Albanie*, was written. But it was from the laudable exertions of *Pont*, and the munificence of Sir *John Scott*, that the geographical delineations of Scotland acquired any claim to the character of accuracy.

Some of the divisions above mentioned, are distinctly marked by the hand of nature; as, for example, that of the whole country into Highlands and Lowlands. The PRESENT DIVISION is into 33 unequal counties, which are usually arranged under three separate heads. The first embraces the country, with its adjacent islands, north of the chain of locks stretching from Moray Firth to the opposite sea. The midland division extends from this chain to the Firths of Forth and Clyde; and the southern portion includes the remainder to the borders of England. These divisions, with the population and chief towns of each, are specified in the following list.

NORTHERN DIVISION—6 Counties.

<i>Counties.</i>	<i>Population.</i>	<i>Chief Towns.</i>	<i>Population.</i>
Orkney and Shetland Islands	46,153	Kirkwall	1,715
Sutherland	23,629	Dornock	2,681
Caithness	23,419	Wick	5,080
Ross-shire	60,853	Dingwall	1,500
Cromarty		Cromarty	2,413
Inverness	78,415	Inverness	10,757

MIDLAND DIVISION—14 Counties.

Nairn	8,251	Nairn	2,504
Moray, or Elgin	23,108	Elgin	4,602
Banff	34,100	Banff	3,603
Aberdeen	136,903	Aberdeen	21,639
Argyle	85,585	Inverary	1,113
Perth	135,093	Perth	16,948
Angus, or Forfar	107,264	Montrose	8,955
Mearns, or Kincardine	27,439	Bervie	927
Bute	12,038	Rothsay	3,544
Dumbarton, or Lenox	24,189	Dumbarton	3,121
Stirling	58,174	Stirling	5,820
Clackmannan	12,010	Clackmannan	3,605
Kinross	7,245	Kinross	2,214
Fife	104,272	St. Andrews	4,311

SOUTHERN DIVISION—13 Counties.

Ayr	103,954	Ayr	6,291
Renfrew	92,596	Renfrew	2,305
Lanark	191,752	Glasgow	5,667
Linlithgow, or West Lothian	19,451	Linlithgow	4,022
Peebles	9,935	Peebles	2,485
Edinburgh, or Mid Lothian	148,444	Edinburgh	82,624
Haddington, or East Lothian	31,164	Haddington	4,370
Berwick	30,779	Dunse	3,082
Wigton	26,891	Wigton	1,711
Kirkcudbright	33,684	Kirkcudbright	2,763
Dumfries	62,260	Dumfries	9,262
Selkirk	5,889	Selkirk	2,466
Roxburgh	27,230	Jedburgh	4,454

It must be sufficiently evident, from the very nature of the country, that the population of Scotland is unequally spread over its surface. The northern division contains about twelve persons on each square mile; the midland, about fifty; and the southern nearly 120. Some of the most thinly-inhabited districts do not contain more than 40 persons to each square mile, while Renfrewshire, the most populous county in Scotland, has nearly 500 persons on the same extent of surface.

CHAPTER II.

Outlines—General Surface—Mountains—Rivers—Canals—Lakes—Climate and Seasons—Soil—Culture—Products.

THE whole OUTLINE of Scotland is one continued series of inlets, peninsulas, and promontories. The Firth of Forth forms a large opening from the eastern ocean to the heart of the country, and a little further north, the Firth of Tay presents a similar access. The coast is there but little indented, till it stretches nearly west for about two degrees of longitude, where a deep triangular bay terminates in Moray Firth. This Firth, with the opposite inlet, formed by the island of Mull, and the western coast of Argyshire, and continued by Lock Linnhe, peninsulates the northern division of Scotland, nearly the whole outline of which is one series of irregular intersections. It is not easy to conceive any thing more broken and rugged than the whole western shore. The Firths of Solway and Clyde form large openings on the south-west; the first, separating Scotland from the north-west counties of England. The entire coast of Scotland, indeed, with few exceptions, is bold, rugged, and precipitous. The mountainous shores on the west, present a regular line of romantic scenery, indented with locks, which, penetrating between the high cliffs, afford safe and commodious harbours.

Much of the GENERAL SURFACE of Scotland likewise participates in the rugged diversity of its outlines. The northern regions exhibit a very different aspect from the southern ones. The leading features of the Highland landscape are composed of an assemblage of dreary mountains, rising to a degree of Alpine grandeur, and enveloped in the deep gloom of sterility. The numerous lakes and arms of the sea, occupying the narrow glens, afford striking contrasts, and increase the picturesque beauty of the scenery. The vivid description which Mrs. Grant has given of one part, is equally applicable to others. "All is inaccessible precipices, over hanging mountains and glens, narrow and abrupt, and cut through with deep ravines, combining with rapid streams, dark pools, and woods so intricate, that the deer can scarcely find their way through them." In the northern and middle districts, the fertile and cultivated lands bear but a small proportion to those that are either wholly barren, or employed merely as pasturage for small cattle and sheep. On approaching the south and south-east, the landscape loses much of its romantic character, the fertility of the soil becomes more apparent, cultivation adorns a larger portion of the surface, and the riches of Ceres wave in more abundant harvests; till at length the progress of culture, and the aspect of the country, present every rural variety, except that wooded richness which distinguishes so many parts of the English landscape.

The MOUNTAINS rise in some places to a greater elevation than in South Britain. Among the principal ranges are the Grampian hills, stretching westward from Aberdeenshire to the Atlantic Ocean. They form the southern boundary of the Highland territory, though some of the tracts, on the north of that ridge, retain the character, and possess the advantages of the Lowlands. A modern traveller thus

describes the aspect of the country between the Falls of Fyers and Fort Augustus :— “ I at length ascended into a region of mountains, jumbled together as by an earthquake, where all around me became dark, savage, barren, and desolate; and for several miles I neither heard the voice of man, beast, nor bird, nor scarce any appearance of them, nor the means by which they could be supported. An occasional view of two small lakes was all that I beheld to mitigate the horrors of this continued scene of desolation.” The Grampians are composed of various groups of mountains, generally rising from 1500, to more than 4000 feet above the level of the sea; and in the western part of the chain some of the highest summits in Scotland are found. In a corner of Stirlingshire, stands the majestic Ben Lomond, rearing its black and barren head, from a base adorned with wood and enriched by cultivation, to the height of 3240 feet. In Perthshire, Ben More rises to 3844 feet, Ben Lawres, to more than 3978, and Schihallion, to 3673 feet. The highest summit in Argyleshire ascends to about 3300. But the most elevated mountain of the Grampians, and even in Great Britain, is Ben Nevis, the top of which is clad in perpetual snow, and is computed at 4380 feet in elevation. This mountain presents a perpendicular precipice, on its north-east side, of about 1500 feet. The top of Ben Nevis affords a grand and extensive view, embracing great part of the western Highlands, from the paps of Jura to the hills of Skey, and stretching, on the east, to Ben Lawres and the river Ness, a distance of nearly eighty miles. The upper part of this mountain is nearly destitute of vegetation, and its summit is almost flat. North of Ben Nevis, and near the source of the Spey, Ben Alar rises from one of the most elevated bases in Scotland, as shown by the rivers that descend down its sides in various directions. Eastward of Ben Nevis, and above the source of the Dee, Cairn Gorum, or the Blue mountain, rears its lofty head to the height of 4080 feet; which is generally capped with snow during the greater part of the year.

Between this chain and the Forth, several detached hills, as well as the range of Ochill, occur, but this last is more noted for the singularity of its agates and calcedonies, than for its elevation or distinctive character. The *Pentland hills*, south of Edinburgh, present some picturesque scenery, but exhibit few really mountainous features. The *Cheriot Hills* form part of the boundary between England and Scotland, but are not remarkable either for their elevation, or any peculiar feature. The south-west extremity of this range is connected with the *Lead Hills*, a name derived from the abundance of that mineral which they contain. This range stretches west from the confines of the two countries, and its principal summit is Hart Fell, near the centre of the southern part of Scotland. Its elevation is nearly 3300 feet. From this Fell a branch extends north-west, and another south-west, but neither of them presents any thing worthy of description.

The mountains in the northern part of Scotland cannot with propriety be classed under either regular ranges or groups. They frequently consist of detached hills, separated by narrow glens, and presenting scenery of the most romantic description. Ben Wevis, west of Loch Cromarty, rises to the height of 4380 feet, and, with some others in this district, is generally covered with snow. A mountainous ridge separates the eastern part of Sutherland from Caithness, and terminates at Ord Head, called by sailors the *Paps of Caithness*. The highest summits of this range are from 1250 to 1930 feet. Several detached mountains occur near the western shore, but the descriptions of them are less specific. Mr. Cordiner, in his letter to Mr. Pennant, observes in reference to the vicinity of Cape Wrath, the north-west promontory of the island, (and the same description applies to several other parts of the Highlands,) “ a wide and dreary country lay before us, and exhibited a most august picture of forlorn nature. The prospect was altogether immense, but wild and desolate beyond description. The mountains presented nothing

to view but heath and rock ; between the formless lakes and pools, dark with the shades thrown from prodigious precipices, gave grandeur to the wilderness in its most gloomy forms."

The names of various **FORESTS** occur in ancient maps and records, but the forests themselves have long since disappeared. The quantity of timber, however, which is frequently dug from a considerable depth below the surface of several bogs and morasses, where none grows at present, is a proof of their former existence. This is the case in the county of Banff ; and the ancient *Sylva Caledonia* extended over the greater part of modern Perthshire. Ettric Forest, in like manner, spreads over the whole county of Selkirk.

The mountainous nature of the country, which causes the **RIVERS** in general to descend from elevated sources, though it imparts velocity and picturesque beauty to the stream, is unfavourable to the purposes of inland navigation. The three principal are the Forth, the Clyde, and the Tay. The Tweed, the Dee, the Spey, the Don, the Ayr, the Nith, the Annan, the Liddal, and the Esk, may be ranked in the second class. The others, though numerous, are of so little importance, that a few of their locks or estuaries only shall be enumerated.

Including the Firth or estuary of the same name, the **FORTH** is not only the largest river in Scotland, but in Great Britain. It rises on the north side of Ben Lomond, and falls into the German ocean north-east of Edinburgh, where the space between Fife Ness, on the northern, and St. Abb's Head, on the southern shore, is thirty-five or forty miles. This river, near its source, is called Avondow, or Black River, which is subsequently changed for the Forth, originally bearing the same import. The Forth soon expands into a beautiful lake, from which it is precipitated in a cascade of thirty feet. It then receives several tributary streams, in a winding passage of about thirty-three miles to Stirling, after which its sinuosities and breadth increase, till the last exceeds four miles ; but it is soon contracted to less than half that width by the proximity of the opposite mountains. Having passed the straits, called the Queen's-ferries, it again expands till it mingles its waters with the ocean, after a direct course of about 100 miles, or, including its windings, of nearly 200. The depth of the Forth, for the last fifty miles, varies from three to forty fathoms. The tide flows to above Stirling bridge, where a reef of rocks crosses the channel, and prevents its further progress. Vessels of eighty tons burden arrive at Stirling, and the Forth is now connected with the Clyde by a canal, stretching from the eastern extremity of Stirlingshire, to a few miles above Dumbarton. About thirty piers have also been constructed on its shores, where a considerable trade is carried on with the surrounding country. The Forth abounds with fish, and its ample and winding channel is skirted with woods and well-cultivated plains, which are occasionally adorned with the ruins of ancient castles. The mountains of Ochill and Lenox rise from its northern margin, and present much pleasing and delightful scenery.

The tides of this river are subject to some singularities which deserve to be noticed, and which distinguish it from all others. For several miles, both above and below Clackmannan, after the tide has flowed for some time, the water runs back for a certain period, and then returns as before. As this alteration takes place both in the flood and ebb, the river has double the number of tides of any other.

The **CLYDE** originates in the southern extremity of Lanarkshire, and pursues a circuitous route towards the north-west, till it forms the Firth of that name, which subsequently joins the Irish sea. Its direct course does not exceed fifty miles, but the real length of the stream is more than seventy. This river passes Lanark, Hamilton, Glasgow, Renfrew, Dumbarton, and Greenock, and is navigable to Glasgow. The great canal which connects it with the Forth, enters it a little below

Renfrew, on the opposite side. The Clyde is celebrated for its romantic falls near Lanark, Bonnyton, Carra, Dundaff, and Stonebyres. The most noted are those at Carra and Stonebyres, which are 84 and 80 feet in height.

Issuing from a lake of the same name, or rather from the small streams by which that lake is supplied, the TAY follows a serpentine course towards the east, till it falls into the north sea, at the Firth of the Tay, which divides the county of Fife from those of Perth and Angus. Soon after leaving lock Tay, it is joined by the river Lyon, and then by the united waters of the Tarf, the Garry, and the romantic Tummel. The Ericht, Isla, and Erne subsequently swell its waters, which afterwards spread into a wide estuary, after completing a course of about 100 miles. The Tay is deep and rapid, and supposed to discharge more waters into the sea than any other British river. It abounds with fish, particularly salmon, great numbers of which are caught every season. Vessels of considerable burden arrive at Perth.

The beautiful and pastoral TWEED, which issues from the north side of Hart Fell, winds its way north-east to Peebles, when it assumes an easterly direction, and forms the boundary between Scotland and the district appertaining to Berwick, where it enters the sea, after a course of 70 or 80 miles in length.

The DEE rises on the north side of the mountain of Cairntoul, in what has been fancifully called the wells of Dee, supposed to be nearly 4000 feet above the level of the sea. It flows towards the east till it terminates a course of about 90 miles below Aberdeen, having received several other streams in its passage through a country abounding in wild and mountainous scenery. The banks of the Dee are, in some places, adorned with wood, and in others, waterfalls impart a varied grandeur. This river, like most of those in Scotland, abounds with salmon. The *Don*, a much smaller stream, flows nearly parallel to the Dee, but a few miles further north.

One of the most impetuous Alpine streams in Scotland is the SPEY, which issues from Loch Spey, south of Fort Angus, and rolls its rapid torrents amidst mountainous wilds, separates the counties of Moray and Banff, and terminates a course of nearly 100 miles, on the east of Moray Firth.

The *Ayr* flows westward through part of the country of that name, and forms a good harbour at its junction with the sea. The *Nith* and the *Annan* both descend into Solway Firth; while the *Liddal* and the *Esk*, and their confluent streams, fall into the northern part of the same estuary. *Esk* is a corruption of the Gaelic word *Uist*, signifying water, and is applied to many rivers in Scotland, particularly to one in Dumfries shire, two in Midlothian, and two in Forfar.

Most of the western regions of Scotland are destitute of large rivers; but this disadvantage is, in a great measure, compensated by numerous arms of the sea which project several miles into the country, and receive the streams that descend from the mountains. The principal inlets on the northern part of the coast, are *Larford*, *Calva*, *Emard*, and *Broom*, the last of which forms a large bay, studded with islands, nearly in the parallel of the Firth of Dornoch, on the opposite coast. The *Enn*, the *Gare*, the *Torridon*, and the *Kessern*, succeed in approaching the south. *Loch Sunart*, in Argyleshire, reaches to Strontian; and *Loch Linne* is still more extensive, stretching nearly to the base of Ben Nevis, where it receives the Caledonian Canal. This is followed by *Loch Etive*, the navigation of which is impeded by a singular cataract near its junction with the sea. *Loch Fyne* gives access from the ocean to Inverary; and *Loch Long* projects from the Firth of Clyde to the west of Loch Lomond. The other Lochs are much inferior.

In Scotland, the LAKES as well as the creeks or arms of the sea, are called *Lochs*. The beautiful, diversified, and romantic LOCH LOMOND, is situated in Dumbar-tonshire, and exceeds 20 miles in length, being the largest expanse of water in

Great Britain ; but the proximity of the opposite mountains confines the breadth, in the northern part, to about 3 miles. As these recede, however, further to the south, the width of the lake expands to 7 or 8 miles. The depth also varies from 80 fathoms in the upper part, to less than 20 in the lower, where its waters are discharged into the Firth of Clyde, by the river Leven. Loch Lomond contains many beautiful islands, some of which are elevated peaks, and adorned with wood from their very summits to the water's edge. Others are clothed with verdure, while some are merely barren rocks, and appear like a continuation of the Grampian Chain, which terminates near this lake. The whole scenery of Loch Lomond and its archipelago is highly delightful. The surface has been observed gradually to rise for some years, and its waters now cover several places where houses and churches once stood. When Lisbon was destroyed by the great earthquake of 1755, the waters of Loch Lomond experienced a violent commotion.

A singular group of lakes lies to the east of Loch Lomond, the chief of which are *Lochs Catherine, Chon, Ard, Achray, Venachar, and Lubnaig* ; all of which are embosomed among the scattered branches of the Grampians. The Highlanders call these lakes *Trosachs*, a word originally signifying rugged and uneven grounds. Loch Catherine is the largest, containing several rocky islands, and being well stocked with trout and char. Salmon and trout are found in Venachar ; but Achray has pike only. *Monteith*, in the same district, is also a beautiful lake, about 5 miles in circuit ; with two small woody islands, the one presenting the ruins of a monastery, the other those of a castle, once the residence of the Earls of Monteith.

West of these, in Argyshire, is *Loch Awe*, 30 miles long and 2 broad, the principal lake in the western Highlands. “ It yields only to Loch Lomond in picturesque beauty. When undisturbed, its waters are remarkably transparent, though their colour is sable ; and it is adorned with islands, rising above its placid surface, crowned with venerable ruins, among which Kilchurn-castle most arrests the attention.” This was the ancient residence of the Campbells of that county, subsequently Dukes of Argyle. The waters of Loch Awe are discharged by a river that flows into Loch Etive.

Passing from this lake to the north-east, a number of *Lochs* present themselves, the chief of which are *Loch-Tay, Loch-Erne, Loch-Ness, Loch-Shin, Loch-Lochy, Loch-Naver, and Loch-Leven*. *Loch-Tay*, one of the most beautiful of the Scotch lakes, is situated in Perthshire ; about 16 miles in length, 2 in breadth, and from 15 to 100 fathoms deep. The margin is diversified by villages and plantations. Trees of all kinds flourish near its shores. The back-ground gradually rises into mountains, and the lofty Ben Lawres crowns the northern view. The ruins of an ancient Priory adorn a small island in this lake, which has sometimes been violently agitated, particularly in 1784. *Loch-Erne*, south of Loch-Tay, is 8 miles long, and one broad, and deserves the attention of the traveller, for the beauty of its surrounding scenery. *Loch-Rannoch*, north-west of Schihallion, is 10 or 12 miles long, but narrow in proportion. *Loch-Leven*, situated between the counties of Kinross and Fife, north-west of the Forth, is about 12 miles in circumference, broad in proportion to its length, and singularly indented by bays, creeks, and promontories. Skirted on one side by mountains, and bordered on the other by the plain of Kinross, its margin adorned with groves, and its surface sprinkled with islands, some of which afford pasturage for cattle, the whole scene has a pleasing effect. On one of these islands, near the centre of the lake, stands the ancient tower in which the unfortunate Mary, Queen of Scots, was confined, and where she was ultimately obliged to sign the instrument of her own abdication.

North of these lakes lies the celebrated *Loch-Ness*, which is thus described by Sir John Carr, as it appears from a neighbouring eminence. “ The vast watery

expanse of Loch Ness, unbroken by islands, twenty-four miles long, and nearly straight from south-west to north-east, opened to me with all its grandeur. Cultivated fields, and a forest of pine, formed a corresponding fore-ground; rocks and mountains—some huge, bare, and rugged, and dashed by wintry torrents,—others adorned with woods of fir and birch, and all blending with perfect harmony of colouring, in which a heathy purple and a soft yellow seemed to have the most diffusion—hung awfully over, or rose with a majestic sweep from the sides of the watery vista, hiding their sublime summits in the clouds. Over many a mile of water, the eye beheld its surface, here gently agitated by a partial breeze, there as tranquil as a mirror, reflecting upon its bosom huge fragments of the adjoining crags or mountains; whilst, far in the west, this graceful and sublime scene, faded in the sombre mist of distance, and in the darkness of cloud collected from the Atlantic." During the great earthquake at Lisbon, on the 1st of November, 1755, the waters of Loch Ness experienced a similar agitation to those of Loch Awe. This lake forms part of the line of the Caledonian Canal; and receives the waters of various streams, which are subsequently emptied by the river Ness into Moray Firth.—LOCH LOCHY, south-west of Loch Ness, also forms part of the line of the same canal, and is about fourteen miles long and one broad.

LOCH SHIN, in the county of Sutherland, is a very winding lake, nearly twenty miles in length. The waters are discharged by a river issuing from its southern extremity, and joining the Firth of Dornoch.—LOCH NAVER, also in Sutherland, is twelve or fourteen miles in circuit, and is connected with the northern ocean by the river Naver. Various other lakes are dispersed over the mountainous districts; but they are not sufficiently important or curious to deserve description.

The most distinguished and useful inland navigation in North Britain, is the CANAL which joins the Firths of Forth and Clyde. The survey for its execution was presented to the House of Commons in 1764, and passed in 1768. The undertaking commenced the same year, and the navigation was opened in 1790, with the accustomed and appropriate ceremonies. This great work is thirty-five miles long, sixteen of which are upon the elevated level of the line, and about a hundred and fifty-six feet above the sea. This level is reached by means of twenty locks at the eastern extremity, and nineteen at the western. Each of these locks is seventy-four feet long within the gates, and twenty-four feet wide. The width of the canal itself is fifty-six feet at the top, and twenty-eight at the bottom, and the depth eight feet. It passes over ten large aqueduct bridges, and three smaller ones. It is also crossed by thirty-three draw-bridges. The length of the aqueduct which crosses the river Kelvin, is three hundred and fifty feet, and its breadth fifty-seven; and the height from the surface of the river to the top of the parapet, is equal to the breadth of the aqueduct. The whole expense of erecting it was £8509. The canal is supplied with water by seven large reservoirs, covering a space of 469 acres. At the beginning of 1791, the Company had expended £330,000; and the following year the tonnage duties amounted to £14,000. Of late the annual payments have amounted to £30,000. A collateral branch of $2\frac{3}{4}$ miles in length extends to Glasgow, so that the whole extent of the canal is $37\frac{3}{4}$ miles.

The nearest passage by sea between the Firths of Clyde and Forth, through Pentland Firth, is 600 miles.—A distance of 500 miles, therefore, besides the dangers of a rough, and sometimes tedious voyage is avoided by this canal.

Another enterprise of the same kind, equally honourable to the country, and of the greatest advantage to the northern part of the kingdom, is the CALEDONIAN CANAL; intended to join Moray Firth and Loch Linnhe. A chain of lakes, connected by rivers, lies along Glenmore, stretching from north-east to south-west, across the island. By opening a canal through these, a communication will be

formed between the opposite seas. This undertaking commenced in 1806, and Parliament has voted various sums for its completion. Its dimensions are 110 feet wide at top, 50 at bottom, and 20 feet deep. The proposed number of locks is 25, each of which is to be 170 feet long, 40 wide, and 20 deep. The whole length to be cut or deepened is $22\frac{1}{2}$ miles. Eight miles on the river Ness, 5 on the Oich, 2 on the superior level, and $7\frac{1}{2}$ on the Lochy. Besides this, the whole length of the navigable lakes is 36 miles and a half; viz. 22 miles on Loch Ness, which is 45 feet above the level of high water in the ocean; 4 on Loch Oich, 94 above high water, and $10\frac{1}{2}$ on Loch Lochy, which is eighty feet above high water. When this canal is finished it will admit frigates of 32 guns to pass from sea to sea.

The CANAL OF CRINAN, in Argyshire, opens a passage from Loch Fyne to the north of Jura, and thus, by a very short cut, a tedious navigation round the Mull of Cantire is avoided.

In point of CLIMATE, the south-east of Scotland differs little from the northern counties of England. More rain falls in the western than in the eastern parts, but the winters are not so severe. The moist winds from the Atlantic are the most prevalent; but those from the north and north-east are generally extremely cold and piercing. The shape and extent of the country, impart a peninsular climate to the whole of North Britain, and render the air more temperate and salubrious than under an equal latitude in continental regions. In favourable situations, the climate is even more temperate than could be expected from the geographical position of the districts. The elevated surface of the Highlands, united with their high latitude, exposes them to great intensity of frost, and a deep covering of snow for several of the winter months, while the proximity of the ocean renders the climate variable at other seasons of the year.

The local peculiarities of Scotland, as to elevations, exposures, &c. necessarily give an extensive range to the thermometer. The mean temperature has been found for a series of years at the following places, viz: at Castle Huntley, $50^{\circ}326$ of Fahrenheit; at Belmont, $46^{\circ}35$; in Clydesdale $48^{\circ}5$. The observations were made at nine in the morning. In the Orkneys, the medium temperature of the year is 45° ; in Mid-Lothian, $48^{\circ}57$; and Stirlingshire 45° . These last numbers afford a striking difference between the mean annual temperatures of two counties nearly on the same parallel, and only a short distance from each other; but it doubtless arises from the central situation and elevated surface of Stirlingshire. The following statement, extracted from a register kept at Gordon Castle, shews the temperature of the different seasons of the same year. The observations were made at 3 p. m. The spring includes March, April, and May; and each of the others the three successive months.

	1808.	1809.	1810.	1811.
Spring.....	$48^{\circ}07$	$49^{\circ}81$	$45^{\circ}88$	$51^{\circ}62$
Summer.....	$63^{\circ}78$	$60^{\circ}87$	$61^{\circ}22$	$60^{\circ}46$
Autumn.....	$48^{\circ}12$	$50^{\circ}42$	$50^{\circ}56$	$52^{\circ}63$
Winter.....	$48^{\circ}95$	$49^{\circ}90$	$48^{\circ}49$	$50^{\circ}35$

The usual quantity of RAIN that falls in Scotland, varies in different places, of which the following statements present an example. The first column shows the number of years for which the observations were continued; the second the greatest quantity that fell in any one year in that period, expressed in inches and decimals; the third contains the least quantity; and the fourth, the average for those years as given in Sir John Sinclair's Report.

	I.	II.	III.	IV.
1. Glasgow.....	30.....	43·9	19·43.....	29·65
2. Belmont Castle, in Strathmore.....	10.....	43·40	23·8	30·40
3. Peebles, in a hilly country.....	14.....	36·33	21·967	28·7
4. Castle-Huntley, near the Tay.....	12.....	34·25	16·625	24·496
5. Dalkeith, in Mid-Lothian.....	8.....	29·25	20·65.....	25·75
6. Duddingston, near Edinburgh.....	8.....	36·8	9·62.....	25·75
7. Mount Sewart, in Bute.....	7.....	58·135	37·121	46·641
8. Langholm, in Eskdale.....	5.....	39·3	34·161	36·733
9. Branxholm, in Teviotdale.....	5.....	38·573	26·295	31·26
10. Wool, 6 miles from Selkirk.....	4.....	39·177	27·579	32·866
11. Bothwell, on the Clyde.....	3.....	25·337	24·44	24·792
12. Peterhead, in Aberdeenshire.....	2.....	32·162	29·565	30·863
13. Gordon Castle.....	1.....	31·34		
Average of all these 30·88				

It is the distribution of rain through the days and months of the same year that fixes the character of the climate, in reference to wet and dry; but this is so variable in the same district of Scotland, that no correct estimate can readily be formed.

The motion of the atmosphere, as well as its temperature and moisture, is an ingredient in the climate; but the intensity, direction, and continuance of the wind in Scotland, are equally variable with the other qualities of the incumbent fluid. From a series of observations on this subject, it appears that the west wind generally blows for more than 200 days in the year, and that the north and north-west winds are usually accompanied by dry and healthy weather, while those from the opposite quarter frequently bring rain.

Scotland possesses almost every variety of SOIL, from the stiffest clay to the barren sand—from the deep and fertile loam to the sterile peat, which defies the utmost skill and perseverance of cultivation. The soil of the vales and plains is generally rich and productive; while that of the elevated parts is only fit for pasturage of an inferior quality. “In the lower districts, AGRICULTURE has arrived at a great degree of perfection. In the shires of Berwick, Lothian, Ayr, Lanark, Stirling, Perth, Angus, and Mearns, the surface of the country has assumed a new appearance, being enclosed and highly cultivated. Rich crops of barley, wheat, clover, and turnips are raised on fields which formerly yielded scarcely pasturage for sheep. Of the mountainous districts, black cattle and sheep are the staple commodities.”

Many parts of the Highlands, present scenes extremely wild and desolate, in which scarcely any thing meets the eye but heath and rock. Yet, even here, the finer particles of the soil being constantly washed from the mountains, cause the vallies of the north, as well as the plains of the south, to yield the species of grain and fruit common to the various counties in the north of England.

Much of both North and South Britain were, in early times, covered with extensive FORESTS. Among these, the Sylva Caledonia, which spread over many of the central regions, and of which there are still some remains, was celebrated as the resort of wild boars. Most of these forests, however, have long since disappeared, and Scotland is now far from being a well-wooded country. Natural woods, however, still exist in Aberdeenshire, Argyleshire, and some other of the northern counties; while thriving plantations adorn many districts. It appears, indeed, from a recent statement, that Scotland contains about 417,890 Scotch acres of natural woods, and 343,522 acres of young plantations. As these are annually increasing, the deficiency of timber, which has been so long justly complained of, will doubtless be ultimately supplied.

Not only the general cultivation of the soil, but *Horticulture* has likewise been

carried to great perfection in Scotland, and the natural inclemency of the climate so far overcome, as to supply all the necessities, and many of the luxuries of the vegetable kingdom. All kinds of esculent vegetables, with the finest fruits of the temperate zone, are now produced in nearly the same perfection as in their native climes. This art has been carried in fact to such perfection in North Britain, that many of our nobility and gentry employ Scotchmen for gardeners, in preference to those of any other country.

Both the wild and the domestic ANIMALS on the north side of the Tweed, are nearly the same as those in the sister kingdom. The native horses, cattle, and sheep in Scotland are smaller than in England, but capable of subsisting upon much harder fare; and the beef and mutton, when fed in lowland or English pastures, are superior. The Colley, or true shepherd's dog, is said to be peculiar to North Britain. Stags and roes are numerous in the mountains of Scotland, though seldom found wild in England.

Of the feathered tribes, the *Capercaillie*, or cock of the woods, a beautiful bird about the size of a turkey, and esteemed a great delicacy, is an inhabitant of the mountains. The ptarmigan, a species of pheasant, also frequents the bleak summits of the Highlands, and is almost the only one of our native birds that delights in so cold a situation. Black game and grouse are plentiful in the heathy mountains. Eagles and falcons, also, are sometimes met with.

The rivers, lakes, and arms of the sea abound with excellent fish, and furnish large supplies for the London market, particularly salmon, cod, and lobsters. The whale is sometimes seen off the northern coast, and the shark among the western islands. The seal also frequents the shores of most parts of Scotland.

A great variety of *mineral* and fossil substances have been found in Scotland, among which are gold, silver, and copper; but the chief minerals are lead and iron. The lead-mines of Lanarkshire and the adjoining parts of Dumfries, are rich and intermixed with silver. Some of the western Highlands also contain the same metal. Iron abounds in many parts of the country, but is obtained in the greatest quantities in Stirlingshire. A rich vein of antimony has lately been opened near West Kirk, in Dumfries-shire. Coal, however, is the most abundant and valuable of the Scotch fossils, and has been obtained in the midland and southern districts for several centuries. None has yet been found north of the Tay, where turf, peat, heath, broom, and furze are the common fuel. Various other mineral substances present themselves in different parts of Scotland. Among them are cobalt, bismuth and manganese. Stone and slate are common in almost every county, and marble has lately been discovered, nearly equal in colour and quality to that of Italy. Agates, rock-crystal, topaz, and other precious stones may be obtained in certain districts, together with the variegated stones, denominated scotch-pebbles.

In the metallic districts, there are several springs of mineral impregnation. Among the most noted of these MINERAL WATERS, are those of Mofat, in Dumfries-shire; St. Bernard's Well, near Edinburgh; the springs at Peterhead, in Aberdeenshire; Dunse, in Berwickshire; and Pitkeathly, in Perthshire. There are five springs at this last place, all of the same quality, but of different degrees of strength. They are much frequented, during the season, by persons afflicted with cutaneous, scrofulous, and gravelly complaints.

CHAPTER III.

Principal Cities, Towns, and Buildings.

EDINBURGH, the metropolis of Scotland, and the county town of Mid-Lothian, is situated near the Firth of Forth, and partially covers three separate hills. The old town crowns an inclining ridge, exceeding a mile in length, from the Castle, on the west, to Holyrood palace, on the east. The principal street runs along the top of this ridge, the houses of which are chiefly built of stone, and are from four to eight stories high in front, and from ten to fourteen behind. A great number of narrow lanes, called wynds, intersect this street, and descend into the valley on each side. The town now, however, spreads over the southern valley, and occupies a part of the opposite hill where it is much more spacious, handsome, and convenient, than the central parts of the city, and contains some elegant squares and buildings. The new town covers a parallel ridge, north of that on which the old town is situated, and with which it is connected by a handsome bridge. As the original plan of this part of Edinburgh was a parallelogram, and nearly the whole of it has been erected during the last century, it is one of the most elegant towns in Europe, consisting chiefly of parallel streets stretching from east to west, and crossed by others at right angles. George street, which occupies the centre, and terminates at each extremity in a spacious square, is 115 feet wide, uniform and elegant. The other two principal and parallel streets, or rather terraces, overlooking the north and south slopes of the hill, are equally uniform and elegant in their construction. Various streets and squares have likewise been added to the original plan, and improvements have been made in several directions. The elegance of the buildings, the diversity of the situation, and the picturesque effect of the surrounding scenery, all conspire to render Edinburgh one of the most imposing cities in Europe. From the Calton hill on the east, "the new town is seen to great advantage, projected on the ground below, while the aspect of the old town, with its elevated buildings crowning the summits of the adjoining ridges, and rising upon the eye in huge and imposing masses, is eminently striking, both from the magnitude and strange irregularity of the objects presented to the view. Beyond the city the eye ranges over a wide extent of the surrounding country, viewing on the east and north the Firth of Forth, with the high grounds of Fife, and the German Ocean; and towards the south and west the pleasing prospect of cultivated plains is terminated by the distant hills."

Many of the public buildings of Edinburgh merit attention. Among these are the Castle, the Palace, the principal Church, Heriot's Hospital, the New College, the Register Office, and the Assembly Room. Of these the Castle is the most remarkable. "It is situated at the western extremity of the old town, on a rugged rock, which rises on three sides from a level plain, to the height of 150 or 200 feet. In some parts, towards the north more especially, the precipice is perpendicular, and even overhangs its base. The summit is crowned with military works, which being contrasted with the sublime and rocky scenery beneath, gives an aspect to the whole inexpressibly grand and romantic, and heighten the effects of this ornament

of the city, far beyond all the embellishments of art. The castle, with its works, occupies an area of seven English acres, and is separated from the town by an open space nearly 300 feet wide. The entrance is defended by an outer barrier of palisades, a dry ditch, over which there is a draw-bridge, and a gate flanked by two batteries. On the other side the rock on which the castle is built, being inaccessible, forms a natural defence."

In one of the apartments, called the Crown room, the regalia of Scotland were lately found, where they had been deposited since the Union. At the opposite, or eastern end of the old town, stands the Palace and Abbey of Holyrood, for several centuries the residence of the Scottish monarchs. "The palace is a large quadrangular edifice of hewn stone, with a court within surrounded with piazzas. At each angle of the west front are two double circular towers; and in the centre is a portico, decorated by four Doric columns, which support a cupola in the form of a crown. In the north-west tower is to be seen the bed-chamber occupied by the unfortunate Queen Mary." It is also in the hall of this palace that the nobility of Scotland still meet to choose sixteen of their number to represent them in the British House of Peers.

The metropolitan church, dedicated to St. Giles, and forming one side of Parliament square, is the most ancient of the churches, and is built in the form of a cross. Under the roof of this venerable edifice there are four separate places of worship; but one of the large aisles has lately been converted into a police office. Several of the other churches and chapels of Edinburgh are elegant structures, and deserve the attention of the stranger.

Heriot's Hospital is a noble building, erected in 1650, at an expense of £30,000, and according to a beautiful Gothic design, by the celebrated Inigo Jones. It consists of a large quadrangle, with a court in the interior, and is crowned with a profusion of columns, turrets, and spires.

Edinburgh has long been distinguished as the seat of literature, science, law, and physic, and its University has obtained a high and deserved reputation. There are twenty-seven Professors attached to it, and the students, in 1818, amounted to nearly 2000. The courts of justice, established in Edinburgh, are likewise extensive, and have a jurisdiction over the whole of Scotland. The law is the leading profession of this northern metropolis, and those who follow it form one of the chief classes of its society.

Edinburgh is rather a commercial than a manufacturing place, and the few articles that are made are for the immediate supply of its inhabitants. Bookselling and printing are extensively pursued, and many eminent publications annually issue from its press. The population of Edinburgh, in 1811, exclusively of the port of *Leith*, was 82,624, but it is now estimated at 90,000.

LEITH, the sea-port of Edinburgh, is situated about two miles north of the capital, where the small river of that name falls into the Firth of Forth. It is an irregularly built town, with more than 20,000 inhabitants. The walk between Leith and Edinburgh is a fine promenade, with handsome buildings on one side, and gardens, belonging to Heriot's Hospital, on the other. Leith and its commerce have greatly improved within a few years; and the latter is now estimated at more than half a million annually. The number of ships which enter the port in the course of a year exceed 2000.

The second city in Scotland in size and population, and the first in commercial importance, is **GLASGOW**, in the county of Lanark. This is a regularly built city, containing many handsome streets and buildings, pleasantly situated on the declivity of a hill, bathed by the Clyde. Glasgow is one of the most ancient towns in Scotland, but, from the flourishing state of its trade and manufactures, it

has lately risen from an inferior town to a spacious and elegant city, containing many public and private buildings worthy of the opulence and prosperity that have attended it. In consequence of this enlargement, suburbs have arisen on the banks of the Clyde; and those on the southern bank are connected with the city by three handsome stone bridges. Glasgow is distinguished as the seat of a University, which has obtained great reputation in various branches of knowledge. There are also several good churches, hospitals, and other edifices, among which the Town Hall is conspicuous, while the high church is the most entire Gothic building in North Britain.

The Clyde is navigable for vessels drawing seven or eight feet water, which come up to the lowest bridge, below which a quay extends about a quarter of a mile, affording every convenience for trade. The cotton manufacture is carried on here upon a large scale; and the workmen have lately excelled in weaving muslins, which are the staple manufacture. Its situation is favourable both for manufactures and commerce. Placed on the borders of one of the richest coal fields and mineral districts in the kingdom, with which it is connected by the Monkland Canal, the Atlantic opens a passage to it on the one hand, through the river Clyde, and the German Ocean on the other, by the canal which connects the Clyde and Forth. It can thus distribute the produce of its industry, and receive foreign articles in return. These advantages have been so far improved by the inhabitants, that in 1815 the import duties exceeded £563,058. This commerce was carried on in 418 ships, forming a united burden of 79,219 tons, and navigated by 4868 men. The exports, during the same period, amounted to £4,016,181; employing 592 ships, carrying 94,350 tons, and navigated by 6476 sailors. Glasgow maintains a great intercourse with America and the West Indies. Hence, the four principal articles of its imports are rum, sugar, cotton, and coffee. The following is a statement relative to the population of Glasgow at different periods. In 1780, the number of inhabitants was 42,832; in 1785, they had increased to 45,889; in 1791, to 66,578; in 1801, to 83,769; and in 1811, to 110,460: they are now supposed to exceed 120,000.

PORT GLASGOW, which is the port to the preceding city, stands about 20 miles lower down the river. It is neatly built amidst pleasant gardens, and encompassed with highly picturesque scenery. The town, at the last census, contained a population of 5116 individuals, who are chiefly supported by its commerce, which is principally carried on in connexion with the parent city. The united burdens of the vessels registered here amounts to 19,133 tons. In 1817, the shipping which entered the harbour amounted to 28,043 tons, and those that cleared out to 32,778 tons. The customs for the year ending in January 1818, were £297,950.

PAISLEY, so much noted for its cotton and muslin manufacture, is situated on the banks of the river Whitecart, in Renfrewshire, and is one of the most populous towns in Scotland. At the last census, it contained about 20,000 inhabitants. In 1746, the number was only 4000. Paisley is a town of great antiquity, and has recently become very prosperous. The old town lies on the west bank of the river, but the new one, which is large, spreads over the marshy plain on the opposite side. It is connected with the former by three handsome bridges. A water communication was opened, in 1791, between Paisley and the Clyde, by a short canal, and some improvements in the river Cart, which has contributed much to the prosperity of the town. Paisley has long been known throughout Europe for its manufactures of thread, silk, gauze, ribands, &c. which were first introduced in 1760. These, however, have since been surpassed by cottons, muslins, and thread, the manufacture of which gives employment to more than 30,000 persons in the town and its vicinity.

GREENOCK is the chief seaport in Scotland, and is situated on an arm of the Irish sea, which meets the river Clyde several miles inland. It contains many well-built houses, but the streets are narrow and crooked, and the town far from elegant. Greenock consisted of only a few fishermen's huts about the year 1697, when the Directors of the Scotch India and African Company determined to establish salt-works on the shores of the Firth. The discussions which took place on that subject, turned the attention of Sir John Shaw to the superior maritime advantages connected with the situation of Greenock. The harbour, which is commodious, and capable of containing 500 vessels, has been completed at an expense of £90,000. On the 10th of October, 1818, the registered shipping belonging to this port amounted to a burden of 40,195 tons. In the preceding twelve months, 55,337 tons of British, and 5304 tons of foreign shipping, entered the harbour; while 55,524 tons of British, and 4818 of foreign vessels, cleared out in the same period. The coasting trade also employed about 23,000 tons. The prosperity which has attended this town is strongly marked by the progress of its population. In 1757, the number of inhabitants was 3900; in 1811, exclusively of those at sea, they amounted to 19,042; and are now supposed considerably to exceed 20,000.

DUNDEE, in the county of Angus, is a large port on the north bank of the Tay, and about 12 miles from the sea. The town is extensive and well built, consisting chiefly of four principal streets, diverging from a spacious market-place, as a centre. The harbour, which is commodious, admits vessels of large burdens, and has recently been enlarged at a great expense. More than 150 ships, carrying a burden of 16,000 tons, belong to the town, and are engaged in the Greenland, the Baltic, and the London trade. Dundee has also several manufactures, among which are those of Osnaburghs and other coarse linens, for foreign markets, with sail cloth and thread, for home consumption. The value of the cloth annually stamped here exceeds £100,000. The sugar refinery, soaperies, tanneries, and iron-works, likewise employ many of the inhabitants. Dundee is a royal borough, and, including the parish, contains a population of about 30,000 persons.

ABERDEEN is situated on the banks of the Don, near the eastern border of Scotland, and consists of two distinct towns, the old and the new. The old town stands about a mile from the sea, and is chiefly distinguished for its University, called King's College. The new town is a large sea-port, with a good harbour, and a population of about 22,000 persons. Great improvements have lately been made in this town, both in the number of its streets, and the style of its buildings; and Aberdeen is now the chief town in Scotland, north of the Tay. The University called Marischall College, several churches, and other places of worship, impart to it a more impressive appearance than belongs to most others in the north of Scotland. Iron-founderies, breweries, and various trades are carried on here. Ships are also built for the American, West India, and Baltic trade. The principal exports consist of grain, fish, thread, hosiery, cotton, and linen goods; and not less than 7000 tons of granite are annually shipped here for paving the streets of London. The imports are colonial produce, and such articles from the south of Europe, and the Baltic, as the consumption of the town and adjoining country require. About 150 vessels belong to the port, making a burden of 17,130 tons, which are engaged in the fishery, and in the foreign, and coasting trade. A canal, extending to Inverary, affords a ready communication with the interior of the country.

PERTH, the capital of the county of that name, and a royal Burgh, is situated on the west bank of the Tay, about twenty miles above Dundee, and contains a population of 17,000 individuals. Perth was a place of great renown as early as the 12th century, and the metropolis of the kingdom, till the Parliament and courts

of justice were removed to Edinburgh about the middle of the 15th century. Perhaps a finer situation for a capital could not be found. With the exception of Edinburgh, it is one of the best built towns in Scotland, the streets are broad and long, and many of the houses good. It was once a fortified town, but is now without towers, forts, or walls, but the remains of an ancient castle and other public buildings are still visible. There is a small harbour, and the tide of the German Ocean flows about two miles above the town. Linen, grain, and salmon, are the chief exports. In addition to the linen trade, which was long the staple manufacture, cotton has been introduced, and is rapidly flourishing. The manufactories of leather and paper, with the salmon fishery on the Tay, employ a great number of the inhabitants. A literary and antiquarian society was formed here in 1784.

The city of **ST. ANDREW'S** is situated in the county of Fife, near the verge of a precipice, overlooking a spacious bay, on the eastern confines of Scotland. The harbour is safe and commodious, but its entrance is narrow. The town consists chiefly of three principal streets, crossed by a number of narrow lanes; and though it has greatly declined in modern times, it still exhibits many interesting vestiges of its ancient importance. It has two churches of the established religion, two places of worship for dissenters, and one for episcopalians. The parish church is a spacious edifice, capable of accommodating 2500 persons, and contains a monument of white marble, erected to the memory of Archbishop Sharp, who was murdered by the reformers of the 17th century. Previously to the reformation, St. Andrew's was the metropolitan See of Scotland, and its cathedral was a noble structure; but was demolished by the reformers in 1559. St. Andrew's once contained several religious houses, the ruins of which are now only interesting to the antiquary, while those of its ancient Castle serve as a landmark for mariners. It was in front of this edifice that George Wishart, a zealous preacher of the reformed doctrines, was burnt by the Catholics in 1545; and in its interior that Cardinal Beaton was murdered in the following year, by the Protestants, in revenge for the persecutions he had previously inflicted on them. A university was instituted at St. Andrew's in 1412, and is still resorted to by about 170 or 180 students, each session. The only manufacture here worthy of notice is one of sail-cloth. The population is about 3300.

A few of the other towns deserve brief notice.

BERWICK, or **BERWICK-UPON-TWEED**, is a town and county of itself, situated on the north side of that river, within about half a mile of its confluence with the German Ocean. Berwick was formerly a point of contention between the English and Scottish armies, and the town and its neighbourhood have been the scenes of many a sanguinary conflict. It is now one of the English boroughs, and is surrounded with walls, on which a number of cannon are mounted, but the fortifications are dilapidated. The manufactures are unimportant; and its chief trade consists in exporting corn, pork, eggs, and salmon. The latter are caught in the Tweed, and packed in boxes with ice for the London market. This fishery employs about 70 boats and 300 men. Fish is also plentiful, and few towns have a better market for all kinds of provisions. The Berwick Smacks are much esteemed for their accommodation, safety, and expeditious sailing; and they convey numerous passengers and articles of merchandize between the metropolis and the eastern district of Scotland. The population of the town is about 8000. Great improvements are making in the harbour, by the erection of an extensive pier. The last time it was reduced, was by General Monk in 1651, when he carried off the Scottish records to London.

AYR, the capital of that county, and the chief town in the south-west of Scotland, is a Royal Burgh and sea-port. The town is irregularly built, but, including

the parish, contains a population of more than 6000 inhabitants. The principal sources of industry are tanning and soap-boiling. Ship-building is also carried on, and nearly 60 vessels, 6000 tons burden, belong to the port. The chief trade is with Ireland, and the exports are cotton and woollen goods, iron, coals, brown paint, and lamp-black. The imports are grain, spirits, and timber.

INVERNESS, the capital of the Highlands, is an ancient Royal Burgh, and a large well-built town, seated at the mouth of the river Ness. It consists of several handsome streets, and was once the residence of the Scottish kings. There are flourishing manufactures of thread, sail-cloth, cordage, skins, leather, &c., the annual value of which is 50 or £60,000. The harbour is commodious and safe. Shipping of four or five hundred tons can anchor within a mile of the town, and at spring-tides vessels of half that burden can come up to the quay. Most of the vessels belonging to the town are engaged in the London trade. Three miles east of Inverness, is Culloden Moor, where the rebels were defeated by the King's forces in 1746; and which is now chiefly covered with plantations. An academy was established here in 1790, for the instruction of Highlanders in various branches of useful knowledge. The population of the town is about 11,000.

STIRLING is a Royal Burgh, and an irregularly built town, situated on the steep acclivity of a rock, in the midst of a plain, about thirty-five miles north-west of Edinburgh. It is a town of great note in Scottish history, and was the occasional residence of royalty. A confederacy was formed here against the unfortunate Mary in 1565; and James the II. of Scotland, was crowned here in 1567. Many of the houses are of ancient structure. The chief manufactures are carpets, woollen stuffs, and coarse muslins. The standard of dry measure in Scotland is the *Stirling Jug*, which is kept here in the council-house. The castle has been repeatedly besieged, taken, and retaken, dismantled, and rebuilt, in the wars between the English and Scots, as well as in the civil wars. The population is about 6000.

DUNFERMLINE is a considerable town in the county of Fife, occupying an eminence declining towards the south, and about two miles and a half from the Firth of Forth. This town having been built at different periods, is irregular, and many of the streets are narrow and inconvenient. It contains the ancient sepulchre of the Scottish kings, and the recent discovery of the remains of Robert Bruce has conferred an additional interest on the place. Dunfermline has also been famous for different branches of weaving, particularly table-linen, which is more extensively carried on here than in any other town of the kingdom, 1500 Looms being generally employed. The remains of the most celebrated Abbey in Scotland are still visible at Dunfermline. Charles I. was born here in 1600; and an engagement of the most sanguinary nature also took place here between the royal forces and those under Cromwell, in which the former were defeated with the loss of 20,000 killed, and 1200 prisoners. Present population 6000.

DUMFRIES is a Royal Burgh, pleasantly situated on rising ground, to the east of the river Nith, over which there is a handsome bridge. This was formerly a place of great note, and bears evident marks of antiquity. From the improvements that have lately been made in the river, vessels of 120 tons can now come up to the town, which trades in corn, wool, potatoes, iron, coals, lime, wine, grocery, &c. The population is about 9000 individuals. Burns, the poet, died here in 1796.

The other towns of Scotland are not of sufficient importance to deserve notice in this general view.

CHAPTER V.

Government—Constitution—Laws and Jurisprudence—Army—Navy—and Revenue.

THE Government and Constitution of Scotland, since the Union, are necessarily identified with those of England; but a great difference exists in the LAWS. Scotland is represented in the Parliament of the united empire by 16 Peers, and 45 members of the House of Commons. The Peers are elected every new Parliament by the whole body of the Scotch Peerage, duly qualified to vote at the time of election. The landed property is represented by 30 commissioners as Knights of the Shires. Lands held of the Crown to the value of £400 a year, entitle the holder to a vote, but such as are held of any subject, whatever may be their value, do not give a title to vote. The representatives of the Royal Burghs are restricted to 15, and the number of persons by whom they are chosen is small, the right of election being chiefly confined to the magistrates and town council.

The Laws of Scotland differ in many essential particulars from those of England. There is scarcely a trace of common law, and, as many of the statutes have never been enforced, the practice of the courts is principally guided by precedents, drawn from the decisions of the *Session*, which are carefully preserved, as precepts of great authority. The civil and canon laws form the basis of the Scotch Law, and may be considered as its two main pillars. Capital punishments are less frequent in Scotland than in England; a proof either of the greater mildness of the laws, or of the superior morality of the people. In the instance of banishment, the delinquent is only exiled from Scotland, and left at liberty to choose his residence in any other country. The lenity of this law needs no proof, so long as South Britain presents such an inviting abode to these exiles. Many of the proceedings of the Scotch law are also freed from the fictitious and dilatory processes which still prevail in several other countries.

A civil, criminal, and revenue court, form the chief branches of the Scotch Jurisprudence. The supreme *Civil Court* is the court of Session, which was lately composed of fourteen judges and a president, but is now divided into two chambers, the one consisting of eight, and the other of seven judges. Before these, all civil causes are tried, and from their decision an appeal lies to the House of Peers. A *Jury Court* was likewise instituted in 1815, consisting of five Commissioners, for the trial of civil causes remitted from the Court of Session.

The *Criminal Court* consists of a Lord Justice General, a Lord Justice Clerk, and five Commissioners of Justiciary, who are called Lords of Session. These judges go on circuit to the principal towns in Scotland, where they hold courts twice a year, and in which they have a civil jurisdiction, by way of appeal, in cases under £12 value. These they try without jury.

The *Court of EXCHEQUER* is composed of the Lord Chief Baron, and four other Barons, who must be either Serjeants at Law, English Barristers, or Scotch Advocates of five years' standing. Their jurisdiction, relative to the Revenue of Scotland, is the same as that of the English Barons over that of England. In this court, all may plead who can practice in either Westminster Hall or the Court of Session.

The high Court of *Admiralty* has only one judge, who is the King's Lieutenant and Justice General, both on the seas, and in ports and harbours. By prescription he is also the judge of mercantile causes, which are not maritime ; but his decisions are subject to the revision of the Court of Session, in civil, and to the justiciary court in criminal, cases.

There is also a *Commissary Court* in Scotland, consisting of four Judges appointed by the Crown, whose jurisdiction embraces questions relative to marriage and divorce, with the decrees of local courts. This court likewise sanctions the appointment of executors ; ascertains the debts relating to the last illness and funeral expenses of persons deceased ; and disposes of obligations arising from testaments, actions for scandal, and all debts not exceeding £40.

Besides the above-mentioned national Judges, each county has a sheriff, whose jurisdiction extends to several criminal cases, and to all civil actions not appropriated by the special law, or custom, of other courts. The keeper of the great and privy Seals, the Lord Register, and the Lord Advocate, are always considered as officers of the State.

There is likewise a herald's office in Scotland, under the direction of *Lord Lyon, King-at-Arms*, whose jurisdiction and duties are similar to those of the same officer in England. The College, or *Faculty of Advocates*, as it is generally called, corresponds to our Inns of Court. A subordinate body of lawyers, or attornies, are styled *Writers to the Signet* ; an appellation they derive from the circumstance, that they alone can substantiate the writings that pass the signet.

The ARMY, NAVY, and amount of the REVENUE of Scotland, are necessarily included in those of Great Britain, already described. The hereditary revenue of the Crown of Scotland is said to have greatly decreased, either from grants, or neglect of collecting. The whole of the revenue for Scotland is stated, by Sir *John Sinclair*, for 1788, at £1,099,148. The expenditure he also gives as follows : Expenses of the Crown £60,342, expenditure of the public £173,921 ; bounties, drawbacks, &c. £127,629 ; public expenses as settled by Parliament, &c. £64,868 ; remitted to the Exchequer £628,081 ; and balance remaining for national purposes £44,307. The same author likewise adds that at least one-seventeenth of the whole Revenue raised by Great Britain is drawn from Scotland ; while at the time of the Union it did not supply more than one-thirtieth. If this proportion be correct, and the Revenue of Great Britain for the year ending January 5th, 1817, was £67,926,899 sterling ; the proportion contributed by Scotland would be nearly £3,995,700.

CHAPTER IV.

Manufactures—Fisheries—Commerce and Shipping.

THE subjects treated of in this chapter are so closely connected with those of England, which have already been described, that a very brief notice will be sufficient. Previously to the union, Scotland possessed few manufactures, and little commerce ; but since that period it has participated in the prosperity of Britain. It was an early custom with many of the Scotch farmers to raise as much flax as their families could convert into linen, both for the supply of domestic consumption, and for the partial payment of rent ; but there was not at that time any large manufactures established for the production of this article. About the middle of the last century, manufactures began to flourish, and they are now carried on upon a large and productive scale. They consist, chiefly, of cotton, silk, carpets, and linen, with cast and wrought iron. The cotton trade has been brought to great perfection in the western districts of the country, and the muslins of Paisley are well known in all parts of Europe. The manufacture of carpets has also been greatly improved of late years. The iron-works have now become an object of national importance ; and the foundry at Carron, in Stirlingshire, is the most extensive on the globe. This foundry was established on the north bank of that river in 1760. The works comprise five blast furnaces, 16 air furnaces, 13 cupola furnaces, a mill for grinding clay, and an engine that raises $4\frac{1}{2}$ tons of water at each stroke, and $31\frac{1}{2}$ tons in a minute. This engine consumes 16 tons of coals in 24 hours ; and in the whole works 196 tons are burnt every day. Four mills are employed in boring guns, pipes, cylinders, &c. Several forges are used for making anchors, anvils, malleable iron, &c. The whole number of persons employed, including those engaged in the manufactures, those working in the mines and pits, and those who carry minerals to the works, and convey goods by sea, is estimated at 2000.

Glass-works, sugar-houses, delf-houses, paper-mills, &c. have been erected in numerous places. Such has also been the progress of the linen manufacture since the period above mentioned, that the value of the linen-cloth, stamped in Scotland in 1750, was £361,736 ; and in 1812, it exceeded a million sterling. That of the woollen, linen, and cotton together, during the same year, exceeded £8,000,000. The hat, paper, and metallic manufactures, have been estimated at two millions. Ship-building, and other branches of labour in which timber is employed, may be stated at one million. Besides these, there are breweries, distilleries, and potteries, tanneries, soap and salt works, and a number of minor articles, which raise the whole annual value of the manufactures to about £14,000,000.

In Scotland, the FISHERIES are great sources of productive industry, and those for whales, herrings, salmon, cod, &c., employ a large portion of the population. They not only furnish valuable articles for home consumption, but supply many for exportation, and vast quantities of salmon, cod, and shell-fish, are almost daily sent to the London markets. Such, indeed, is the attention paid to this source of national wealth, that the fisheries have now become an object of great importance, and yield a large sum annually. The late discovery of immense stores of cod

on the banks off the Shetland Islands, also enlarges this source of employment and profit to an almost indefinite extent ; and Scotch industry will doubtless turn it both to individual and national advantage.

The COMMERCE of Scotland, though on a smaller scale, is, in other respects, similar to that of England, and participates in the general prosperity of the empire. The chief exports are linen, manufactured cottons of all kinds, muslins, lawns, gauzes, woollen stuffs, carpets, stockings, earthenware, iron, glass, coals, candles, soap, oil, fish, leather, and grain. A great number of black cattle are annually sold at the English markets. This, however, has for some time been diminishing, from increased home consumption. Their imports, in return, consist of wines, brandy, rum, sugar, coffee, molasses, rice, indigo, tobacco, raw cotton, flour and hemp, all of which, with the exception of the first two articles, are chiefly brought from the West Indies and America. Beef, butter, and linen are also received from Ireland.

This commerce has rapidly increased since the middle of the last century. In 1755, the value of the imports was £465,411, and that of the exports £535,576. 16s. 4d. In 1801, the former amounted to £2,580,000, and the latter to £2,844,500. In 1810, the total value of imports was £3,671,158, and of exports £4,470,239 ; of which £4,126,682 was the value of British produce and manufactures.

The SHIPPING of Scotland, like its manufactures and commerce, have greatly increased since the Union, for in 1665, the whole number of vessels between 250 and 300 tons, was only 137, and the amount of their united burden 5736 tons. In 1760, the foreign commerce, coasting trade, and fisheries, employed 999 ships, amounting to a tonnage of 53,913 tons. In 1800, the number had increased to 2415 vessels, and the burden to 171,728 tons, and the compliment of men to 14,820.

In 1807, the number was 2,615, carrying a burden of 216,553 tons, and navigated by 15,658 men and boys. The vessels built in Scotland during a recent period, with their tonnage, were as follow ; viz. in

1817.		1818.		1819.	
Vessels.	Tonnage.	Vessels.	Tonnage.	Vessels.	Tonnage.
192	15,608	156	14,824	131	13,923

The ships belonging to Scotland, with their tonnage, and the number of sailors usually employed to navigate them, on the 20th of September, in each of the following years, were, viz.

1816.			1817.			1818.		
Vessels.	Tonnage.	Men.	Vessels.	Tonnage.	Men.	Vessels.	Tonnage.	Men.
2958	263,536	18,775	3004	255,734	18,926	3062	277,760	19,298

CHAPTER VI.

*Religion and Ecclesiastical Geography—Education—Language and Literature—
Arts and Sciences—Manners and Customs.*

THE established RELIGION of Scotland is the Presbyterian ; but here, as in England, complete toleration is allowed. As the form of Church government differs materially from that established in South Britain, we shall present the following brief account of it.

Church government, as established in Scotland by the Parliament in 1690, and subsequently secured by the act of union with England, is founded upon an equality of rank and authority among all the presbyters, or pastors. This mode of discipline was modelled according to the Calvinistic plan of Geneva, which their great reformer, John Knox, recommended to his countrymen. The ecclesiastical power is distributed among the various ministers of the church of Scotland in the following manner. The whole of the country is divided into 899 parishes ; each of which has one or more officiating ministers, who discharge the sacred functions committed to their care, according to their discretion, and are accountable to the presbyteries to which they belong, for the manner in which those holy duties are performed. To assist the pastor in what relates more immediately to the discipline and temporal concerns of the church, a number of the most intelligent and regular of the parishioners are elected as elders. The office of the elders is to watch over the morals of the parishioners, to catechize the young, and visit the sick ; but they have no authority to teach or administer the sacraments. They also exercise the office of deacons, and manage the funds for the support of the poor within the compass of their jurisdiction. The minister and elders together constitute a *Kirk or Church Session*, which is the lowest ecclesiastical judicature in Scotland. The prerogative of this court is to inflict some ecclesiastical censure upon any of the parishioners who are convicted of any immoral conduct ; and if the person so punished thinks himself aggrieved, he may appeal to the presbytery, which is the next superior court.

The *Presbytery* is composed of an indefinite number of ministers of contiguous parishes, with one ruling elder chosen half-yearly out of each church session. This body takes cognizance of all ecclesiastical affairs within its province or district. They examine the candidate for the ministry, whom, if found duly qualified, they license to preach, but not to dispense the sacraments, for holy orders are not conferred on these candidates till they have acquired a right to a benefice by a certain discharge of their official duties. The presbyteries also judge their own members ; but from their sentence, an appeal lies to the Synod, in whose jurisdiction the Presbytery is situated. These courts generally hold their meetings once a month, and they can adjourn to any time and place within their own district. On neglecting to adjourn, they become defunct, and cannot be revived by any act of their own, but only by the power of the general assembly

Synods are composed of several Presbyteries, and they generally meet twice a year, usually in April and October. Their principal business is to review the proceedings of the several presbyteries, and judge in appeals from the inferior courts; but their decisions are revisable by the *General Assembly*, which is the supreme ecclesiastical court of the country, and from which their lies no appeal. This court is composed of the following representatives from the Universities, Presbyteries, and Royal Burghs. There are 200 ministers; 89 elders representing Presbyters; 67 representatives for the Royal Burghs; and five ministers or elders for the Universities: the whole number composing the assembly is therefore 361 members. The commissioners are elected annually, from 40 to 70 days prior to the meeting of the assembly. The period of its meeting is May, and the duration of its sitting is 10 days, at the expiration of which it is dissolved by the Moderator and the King's Commissioner. All the transactions of the inferior courts are subject to the revision of this assembly, which has also power to enact laws for regulating the discipline and government of the church.

The Scotch clergy have salaries, called stipends, paid out of the teinds of their parishes; and which are fixed by the *Court of Sessions*, the members of which are Commissioners of Teinds, and act as a Committee of the Scotch Parliament.

The number of Presbyteries and parishes which compose every Synod, are as follow.

Synods.	Presb.	Par.	Synods.	Presb.	Par.
1. Lothian and Tweeddale.....	7	104	9. Aberdeen.....	8	97
2. Merse, or Berwick and Teviotdale..	6	56	10. Moray.....	7	52
3. Dumfries.....	5	53	11. Ross.....	3	23
4. Galloway.....	3	37	12. Sutherland and Caithness..	3	23
5. Glasgow and Ayr.....	7	127	13. Argyle.....	5	39
6. Perth and Stirling.....	5	78	14. Glenelg.....	5	29
7. Fife.....	4	66	15. Orkney.....	4	30
8. Forfar and Mearns.....	6	75			

EDUCATION has long formed an object of laudable attention in Scotland, and its effects are obvious in the national character. The means employed in the large towns for accomplishing this purpose are the same as those adopted in England, but the establishment of free-schools in every parish is an essential branch of the ecclesiastical constitution of the country, and brings instruction within the reach of the poorest inhabitants. The school-master, having a small salary independently of what he is paid by the scholars, is enabled to instruct the children of the poor, either gratis, or at a very trifling expense; and the general intelligence and good conduct of the lower classes fully prove the efficacy of this plan, as a practical system. Many of the poor children, especially in the Highlands, attend the flocks in Summer, and the schools in winter, and thus not only acquire the elements of useful knowledge, but become more deeply acquainted with the leading principles of religion, and lay the basis of their future moral conduct. Hence, it is not uncommon in the remote glens of those dreary mountains, for those who have thus had their latent curiosity excited in the early period of life, to spend their leisure hours, particularly their long winter evenings, in the study of ancient lore, or in the acquisition of a more enlarged acquaintance with the world, through the medium of modern publications, than their limited experience could supply.

Two distinct LANGUAGES are spoken in Scotland. That of the Lowlands consists of the ancient Scandinavian intermixed with the Anglo-Saxon, and bears a great analogy to the English, though it is still distinct from it, both in the orthography and pronunciation of many words. The general similarity, however, is so great, that an intelligent Scots peasant of the southern counties, will read Chaucer,

Gower, and our earlier English poets, with much more facility than a modern Englishman can, even with frequent references to a glossary. The language of the Highlanders is a dialect of the Celtic, denominated *Gaelic*, and has a great similitude to the Irish. The original identity of the two languages is, indeed, evinced by that of the people themselves, as well as their being yet able to understand each other without difficulty.

There are few departments of LITERATURE in which the Scotch have not risen to eminence, and though its commencement was late, its progress has been rapid. Scotland, like many other nations, was overwhelmed in the general deluge of barbarianism which flowed with such impetuosity from the east and the north ; but she did not so soon emerge from the flood, and hence the country which produced the classical historian Buchanan, in the 16th century, affords very few authors deserving of notice prior to that period. But within the last hundred years, history, poetry, metaphysics, and various other departments of knowledge, have been cultivated with great success, and authors of high reputation adorn each. There are blanks, however, in the literature of Scotland. In the drama, in epic poetry, in theology, in works of humour, and in classical criticism, she is very far behind her southern neighbours. She can boast no names that can for a moment be put in competition with Shakespeare, Jonson, Beaumont, Fletcher, Otway, Dryden ; Milton, Hooker, Jeremy Taylor, Tillotson, Clarke, Bentley, Congreve, Butler, &c. &c. In one department of literature, however, she has led the way. Her Hume and Robertson stimulated the ardor of Gibbon, and she has other historians of merit, to whom we can oppose no corresponding celebrity. It has also been observed that “ in the arts Scotland is deficient ; she can produce few painters of eminence ; in statuary she is without excellence, in engraving indeed, and in typography, she rivals her neighbours ; and her wild melodies have fixed for her a station which it would be difficult for her to change with advantage.”

In the various departments of the SCIENCES, and in the prosecution of severer studies, the perseverance of the Scotch character has been displayed. To group a few of the various authors who have appeared in different departments, during the last two centuries, will afford the reader the best view our space allows.

“ During the 17th and 18th centuries, this country produced many eminent writers in various departments of science ; among whom may be reckoned the following :—

Divines and Moral Philosophers ; Baille, Baron, Blair, Burnet, Campbell, Cameron, Dickson, Erskine, Forbes, Gerrard, Haliburton, Leechman, Leighton, Macknight, Rutherford.

Statesmen and Lawyers ; Sir Thomas Craig, Fletcher, President Forbes, Lord Kames, Sir George Mackenzie, Earl of Mansfield, Viscount Stair.

Historians ; Calderwood, Dalrymple, of Hailes, Ferguson, Henry, Hume, Innes. Macpherson, Robertson, Smollet, Spottiswood, Watson, Wodrow.

Political and Moral Writers ; Beattie, Campbell, Oswald, Reid, Smith.

Philologists, Grammarians, and Critics ; Blackwall, Cameron, Cunningham, Dempster, Monboddo, Moore, Ruddiman, Sibbald.

Poets and Painters ; Aikman, Allan, Armstrong, Blair, Burns, Drummond, Grahame, Home, Jameson, Logan, Martine, Ogilvy, Ramsay, Runciman, Thomson, Wilkie.

Physicians ; Arbuthnot, Bell, Black, Cullen, Gregory, Hunter, Hutton, Monroe, Pitcairn, Simpson, Smellie, Whytt.

Mathematicians and Natural Philosophers ; Ferguson, Gregory, Keil, Mac-laurin, Napier, Robison, Simson, Stewart.” And as this list includes such only

as have finished their labours, the name of the late Professor Playfair must now be added.

The enlarged intercourse between England and Scotland, which has now subsisted for more than a century, has done much towards assimilating the *MANNERS* and *CUSTOMS* of the two countries. Yet, the difference of origin, the secluded nature of a great part of the country, the protracted duration of the feudal system, with a variety of other local causes, still render the Scotch and English distinct people. A spare habit of body, and high cheek-bones, are generally regarded as characterising the inhabitants of North Britain, who are patient of labour, and capable of enduring great fatigue.

The population of Scotland includes two classes, the *Highlanders* and the *Lowlanders*; differing in manners, language, and character, as much as the English and the Welsh, or the French and the Germans. This distinction is coeval with their difference of origin, and has been maintained by subsequent habits and circumstances, which are strongly marked in the following expressive language of Mrs. Grant.

“The low country was inhabited by a people driven at a later period from the south, by successive invaders and oppressors, who were further advanced in the arts of industry, and the progress of civilization than the Highlanders, whom these last regarded as intruders, and who had scarcely any thing in common with them.

“Though their Mountain Chiefs were in due time brought to yield a reluctant fealty to the Scottish Monarchs, their followers were scarcely conscious of this submission, and most unwilling to believe, that a greater man than their own Chief existed. No two nations ever were more distinct, or differed more completely from each other, than the Highlanders and the Lowlanders; and the sentiments with which they regarded each other, was at best a kind of smothered animosity.

“The Lowlander considered the Highlander as a fierce and savage depredator, speaking a barbarous language, and inhabiting a gloomy and barren region, which fear and prudence forbid all strangers to explore. The attractions of his social habits, strong attachments, and courteous manners, were confined to his glens and to his kindred. All the pathetic and sublime charms of his poetry, and all the wild wonders of his records, were concealed in a language difficult to acquire, and utterly despised, as the jargon of barbarians, by their southern neighbours. If such were the light in which the cultivators of the soil regarded the hunters, graziers, and warriors of the mountains, their contempt was amply repaid by their high-spirited neighbours.

“They again regarded the Lowlanders, as a very inferior mongrel race of intruders; sons of little men, without heroism, ancestry, or genius. Mechanical drudges who could neither sleep on the snow, compose extempore songs, recite long tales of wonder or of woe; or live without bread and without shelter, for weeks together, following the chase. Whatever was mean or effeminate, whatever was dull, slow, mechanical, or torpid, was in the Highlands imputed to the Lowlanders, and exemplified by some allusion to them: while in the low country, every thing ferocious or unprincipled, every species of awkwardness or ignorance, of pride or of insolence, was imputed to the Highlanders.

“No two communities, generally speaking, could hate each other more cordially, or despise each other more heartily. Much of this hatred, however, proceeded from ignorance of each others character and manners.”—*Essays on the Highlanders*.

The higher classes of the Lowlanders, upon whom the intercourse between North and South Britain has had the greatest effect, differ little from the same orders among the English, either in their dress, habits, or manner of life. Their

habitations are built in the same style, but their furniture is in general less elegant and expensive. The cottages of the peasants have also been greatly improved within a few years, and the ancient huts, composed of mud and straw, have now nearly vanished from the Lowland districts.

Though the Scotch are ardently attached to their own country, they have long been noted for a strong propensity to travel into foreign regions. This arises, in a great measure, from the confined resources presented to the younger branches of families in their native land, and the consequent necessity for visiting other countries in pursuit of that independence which cannot be acquired at home. The propensity is common to all classes. It is not, emigration, but a mere temporary absence from Scotland, they contemplate; for their attachment to their native soil is strongly, and unceasingly, manifested in the most distant parts of the globe, by the assistance they afford each other, and the eagerness with which they return when fortune has granted them the object of their pursuit.

The difference in the ecclesiastical establishments of England and Scotland, causes a corresponding dissimilarity in some of their religious ceremonies and customs. Sponsors are not required in baptism, as the parents alone are responsible for the proper education of the child. No religious ceremony is requisite to render marriage valid, as the consent of the parties, witnessed by a third person, is sufficient. When a person dies, the parish beadle is sent round with a passing bell, and, stopping at certain places, he announces in a solemn manner, the name of the person deceased, with the intended time of burial, and invites all the neighbours to the funeral. Those who assemble on these occasions, to pay the last tribute of respect to the departed, are generally very numerous, and the body is deposited in the grave without any funeral rites or religious ceremonies whatever. The Scotch are in general a grave people. They are educated under a severe system of morals, and are capable of great application and perseverance. They have been lately characterised by one of their own countrymen, as "prone to abstruse speculation, to vehement dispute, to eagerness in the pursuits of business and ambition, and to all those intent occupations of the mind, which rather indispose it to unbend in easy playfulness."

The lower orders of people live on much harder fare than their equals in the southern part of the island. Oatmeal, made into bread, or eaten in a variety of other ways, forms a great part of their subsistence. They seldom eat animal food, and wheaten bread is by many scarcely ever tasted. They are exemplary for sobriety and good conduct, and exhibit a striking instance of the power of religious and moral education over the evil propensities of the mind. Instead of spending their earnings in the momentary gratifications of sensual indulgence, the Scotch peasant or manufacturer usually prefers the necessities of life, and is laudably ambitious that his family should appear clean and decent on Sundays and other holydays.

Relative to the effects of instruction on the minds of the lower classes of the North Britons, Sir *John Carr* observes, "the poor of Scotland seem to have decided this important question; they can read, and yet are loyal; they can write, and yet are honest; they can calculate, and yet are virtuous. By the wise and salutary diffusion of education, particularly in parts which appear to be impenetrable to civilization, upon the sides of frightful mountains, or in dismal glens seldom visited by the rays of heaven, the astonished and admiring traveller beholds a spectacle at once gratifying and affecting. In a hut of branches and sods, when the hour of labour is over, the young, enlightened by those institutions which do honour to human nature, are seen instructing those who are younger, or consoling the last hours of venerable and sightless age, by reading aloud the Scriptures, or some pious book, printed in their own language; yet in this sorry dwelling the

benighted traveller may rest in safety amid the howling storm ; not a hand will be extended to him but in kindness ; not a voice will be raised but to charm his ear with the song of other times, or, if he understands the language, to store his mind with the wild, romantic, and beautiful effusions of the Gaelic muse."

The *Highlanders* are a brave and hardy people, and ardently attached to the manners, customs, and language of their forefathers, their chieftains, and their country. They are stout active men, capable of sustaining almost every bodily privation and hardship. Their ancient costume has now fallen greatly into disuse, and a Highland Chief, in the full dress of his country is seldom seen except on particular occasions. This dress, however, is still retained by many of the peasantry. Over the shirt, the Highlander wears a waistcoat of the same kind as the plaid, which is twelve or thirteen yards long, and made of a woollen stuff, called *tartan*, which is composed of various coloured stripes, disposed at right angles to each other, and in the arrangement and harmony of which much taste is often displayed. The plaid is thrown over the shoulder, and is sometimes fastened round the waist with a leathern belt or girdle, and hangs down before and behind, supplying the place of small-clothes. This dress the Highlanders call a *phelig*, but the Lowlanders a *kilt*. A kind of short petticoat, made of the same variegated stuff, is also frequently worn, and is called *philebeg* ; this reaches nearly to the knee, and with short stockings made of tartan, and tied below the knee with garters formed into tassels, completes the dress. A large leathern purse, richly adorned with silver, hanging before, was always an appendage to a Highland Chieftain's dress. Even yet, almost every Highlander has a large pouch of skin, dressed with its hair on and ornamented with tassels, dangling before him, to contain his money and tobacco. The lower class wear a flat blue cap, of a particular kind of cloth, called a bonnet, and brogues of untanned skins. The female dress in the Highlands consists of a petticoat and a kind of jerkin, with close sleeves, over which they wear a plaid fastened under the chin, and falling in folds to the feet, sometimes most gracefully. Round the head, they fold a piece of linen of different shapes. The young women seldom have more than a ribband for this purpose. Shoes and stockings are little worn by the Highland females, except the higher classes, who dress as in England. In bad weather, the plaid, instead of resting upon the shoulders, is thrown over the head, and then resembles the *Mantella*, worn by the women of Spain.

The dwellings of the Highlanders have undergone much less alteration in their construction than the houses in other parts of Scotland ; and the generality of the cottages are so unlike what are to be seen in England, that we shall insert Sir *John Carr's* description of what they were when he visited the Highlands about twelve years ago. " At a distance," he says, " they resemble piles of turf. In general they are built in glens and straths, on the side of a lake, or near a river or stream, adjoining to which there is a little arable land. The walls are built of turf or stones, according to the nature of the adjoining soil, and raised about six feet high, on the top of which a roof of branches of trees is constructed ; this is covered with squares of turf, of about six inches thick, closely pressed together, and put on fresh from its parent moor, with the grass or heath upon it, which afterwards continues to grow, and renders it difficult for a traveller, unless he be very sharp-sighted, to distinguish at a little distance the hut from the moor. A tolerable hut is divided into three parts : a butt, which is the kitchen ; a benn, an inner room ; and a byar, where the cattle are housed. Frequently the partition of the chambers is effected by an old blanket, or a piece of sail-cloth. In the kitchen, and frequently in the inner room, there are cupboard-beds for the family ; or, what is more frequent, when the fire on the ground is extinguished, they put their bed of heath and blankets

upon the spot where it has burned, on account of the ground being dry. A true farmer loves to sleep near the byar, that he may hear his cattle eat. 'These patriarchal dwellings frequently tremble, and sometimes fall before the fury of the tempest.' These are almost always accompanied by a dung-hill and a peat-stack, which are invariably placed close to the door.

In war and the chase the Highlander excels, while the cultivation of his small patch of ground, and the tending of his flocks and herds, are almost the only domestic occupations in which he thinks it not beneath his dignity to engage. He appears to have no idea of property beyond that of sheep and cattle. His "whole wealth consisting of cattle, what he most valued himself upon was that pride and joy of life, 'a fine fold of cows,' to use his own favourite phrase. With his cows his rents were paid, and with his cows his daughters were portioned, and his sons established in life."

As the Highlander is almost invariably a farmer, the distribution of labour in a Highland farm becomes an interesting topic.

"The lesser boys take charge of the weaned lambs; the stronger attend the goats to the rocks and perilous precipices, upon which they love to browse; the young girls are employed at the distaff; the young men attend the cattle upon the mountains, while the father cultivates his little patch of ground, repairs his hut, of which he is the designer and builder, and upon which occasion the knife, the axe, and the auger, are his simple tools. In this respect, however, he is better provided than the Russian boor, who works with more skill, neatness, and ingenuity, with only his axe. At evening fall, the children return, the bearers of fish which they have caught in some neighbouring stream, and of alder bark, and buds of heath and moss, with which their mother may stain her home-spun plaid. Among the Highlanders, both old and young, the season of '*Summer flithing*,' when they remove for the summer to the mountains with their flocks, is always hailed with a rapturous-welcome. At this time they live in the mountains in Shealings, or little huts constructed for the purpose, and sleep upon beds of heath, leading a life perfectly natural until the autumn is advanced, when they return to their glens." The same author also remarks that "the hardihood of the Highlander is proverbial. It is well known that in cold dry windy weather, when these mountaineers are obliged to sleep among the hills to attend the cattle, they soak their plaid in a burne or brook, in which having rolled themselves, they select a spot of heath on the leeward side of some hill for their bed, where they are kept warm by the wet, which prevents the wind from penetrating the stuff."—*Sir John Carr's Caledonian Sketches*.

The secluded nature of the country, with the peculiarity of language, manners, and sentiment, long prevented the Highlanders from being fully known to their southern neighbours. A temporary abode in their native glens was necessarily inadequate to a correct delineation of their character, while, to establish a permanent residence among them was almost impossible. A thousand obstacles, indeed, presented themselves on making the attempt. Under such circumstances, it is not surprising that misrepresentation should often supply the place of correct portraiture, and that many of their most amiable qualities, which are always of the retired kind, should be overlooked. A favourable concurrence of circumstances, however, has supplied this deficiency in our acquaintance with this interesting people, whose noble form and pensive mind accord so well with the wild and sublime scenery in which they move. Mrs. Grant, the wife of a minister, settled in the Highlands, eminently possessed the requisite qualifications for observing all the minute shades of character by which they are discriminated. Acquainted with their language, and mingling with them daily, she has drawn a luminous sketch of the Highlanders, from which the following particulars are selected.

With respect to the secluded nature of the country, and the obstacles above referred to, this amiable writer observes,

“ There really was not room for a stranger, in a country already overpeopled in proportion to its productions. Especially when it is considered, that every inch of ground was occupied by heads of families, who were perhaps the tenth generation on the same spot, and held their lands from a patriarchal chief, to whom, and his ancestors, they and their forefathers had performed services the most important. One of these tenants could not be removed to make room for a stranger, without giving mortal offence to the whole tribe, their ideas of morality as well as attachment being outraged by such a proceeding. Thus, though a stranger passing through the country, or merely visiting it, was treated with kindness, and indeed with the most liberal hospitality, if he attempted to settle there, he had nothing but prejudice and persecution to expect ; by attempting to domicile himself, he lost all the courtesy of a stranger, without establishing any claims to good-will as a friend or a neighbour.

“ Such was the state of society ; and so little could a single individual, even in tolerable circumstances, do for himself, that a man who did not possess the general good will, and receive the hourly good offices of his neighbours, lived in the state of an outlaw, excluded from the comforts, and deprived of the privileges of social life.”

Their social ideas and conjugal affection are thus vividly portrayed :

“ No Highlander ever once thought of himself as an individual. Amongst these people, even the meanest mind was in a manner enlarged by association, by anticipation, and by retrospect. In the most minute, as well as the most serious concerns, he felt himself one of many connected together by ties the most lasting and endearing. He considered himself merely with reference to those who had gone before, and those who were to come after him ; to those immortals who lived in deathless song and heroic narrative ; and to those distinguished beings who were to be born heirs of their fame, and to whom their honours, and, perhaps, their virtues, were to be transmitted.

“ Whatever might be the motive that produced a marriage, it was seldom unhappy. To a genuine Highlander, the mother of his children was a character so sacred, that to her he was never deficient in indulgence, or even respect. To her he could forgive any thing, provided her conduct did not impeach the honour of their mutual progeny, or create doubt, where suspicion would be misery.”

The following animated picture of their martial qualities, their industry, their frugality, their fortitude, and their perseverance, is drawn by the same hand.

“ A Highlander thrown prematurely among the polished classes of society, and one obliged to mingle with the lower orders of civilized countries, equally cease to be fair specimens of the mountain race from which they spring : the one becomes that sort of being which good qualities, good education, and good company every where form ; the other, whom ignorance excludes from the decent class of artisans, is obliged to mingle with the dregs of the people, and with their vulgar language he acquires their low ideas, and, shrinking in the ungenial clime of plebeian grossness, he assumes an entire new character. If any thing recovers him from his hopeless apathy, it must be the ‘ spirit-stirring fife,’ or the martial pipe of his ancestors, calling him to the field of honourable strife.

“ Here, if at all, the Highlander resumes the energy of his character, and finds room to display once more the virtues of habit and of sentiment ; for here he is generally associated with beings like himself. Here his enthusiasm finds an object ; his honourable feelings, his love of distinction, his contempt for danger, and, what is of equal importance in the military life, his calm fortitude, stern hardihood,

and patient endurance, all find scope for exercise. Here, too, mingled with his countrymen, he tells and hears the tales of other times,—beguiles the weary watch of night with songs that echoed through the halls of his chief,—or repeats, on the toilsome march, the love-ditty inspired by the maiden that first charmed him with the smile of beauty, and the voice of melody in his native glen.

“ These recollections and associations preserve, in pristine vigour, the fairest trait of the Highland character. Social and convivial as Donald’s inclinations are when others join the mirthful band, and share the cup of festivity, he retires to his barrack or his tent, and adds the hard-saved sixpence to the little hoard which the pay-master promises to remit home, to pay his father’s arrear of rent, or purchase a cow to his widowed mother.

“ Poor Donald is no mechanic : he cannot, like other soldiers, work at a trade when in quarters : yet, day after day, with unwearied perseverance, he mounts guard for those who have this resource, to add a little to this fund, sacred to the dearest charities of life — the best feelings of humanity. This sobriety preserves alive the first impressions of principle,—the rectitude, the humble piety, and habitual self-denial, to which a camp life, or unsettled wanderings that belong to it, are so averse.

“ There are instances, of a very late occurrence, not of individuals only, but of whole regiments of Highlanders, exercising this generous self-denial, to remit money to their poor relations at home, to an extent which would stagger credulity, were it particularized.

“ The officers of one of the regiments to which I allude, finding such sums remitted through their hands, and seeing their men constantly either on guard or at hard labour, began to fear that they were living too low to support such perpetual exertion. Every day they visited the barracks, to be assured that their men made use of a proportion of animal food. They were at first deceived by seeing pots on, with meat boiling in them, as they thought ; but, on a nearer inspection, found, that in many of them a great stalk of what we in Scotland call kail, was the only article contained in them. They brought long sticks with them afterwards, and sounded the pots, to make sure. This was indeed

Spare fast, which oft the gods doth diet.

“ I should rather have kept this quotation to grace another instance of still nobler self-denial, which ought to be recorded in a more durable manner than this perishing page will admit of.

“ A Highland regiment, commanded, I think, at that time, by General Macleod, was, during the wars with Tippoo Saib, engaged in an unfortunate rencontre, in which above 200 of them fell into the hands of that remorseless tyrant. They were treated with the most cruel indignity, and fed upon a very sparing portion of unwholesome rice, which operated as a slow poison ; assisted by the burning heat of the sun by day, and the unwholesome dews of night, to which they were purposely exposed, to shake their constancy.

“ Daily some of their companions dropped before their eyes, and daily they were offered liberty and plenty, in exchange for their lingering torture, on condition of relinquishing their religion, and taking the turban ; yet not one could be prevailed upon to purchase life on those terms.

“ These Highlanders were from the Isles, and entirely illiterate. Scarcely one of them could have told the name of any particular sect of Christians ; and all the idea they had of the Mahometan religion, was, that it was averse to their own ; and that, adopting it, they should renounce him who had died that they might live,

and who loved them, and could support them under all sufferings. The great outlines of their religion,—the peculiar tenets which distinguish it from every other,—were early and deeply impressed upon their minds, and proved sufficient in the hour of trial.

The fair author of this account observes, in addition “The self-devoted band at Thermopylæ have had their fame : they expected, and deserved it. These did not even aspire to such distinction ; far from their native land, without even the hope of having their graves beheld by the eyes of mournful regret, they passed away unseen, like the flower in the desert, when its head is heavy with the dews of the night, and the sun arises in its strength, to scatter its leaves on the gale.

“The voice of applause—the hope of future fame—the sympathy of friendship—all that the heart leans to in the last extremity, was withheld from these victims of principle. It was not theirs to meet death in the field of honour, while the mind, wrought up to fervid eagerness, went forth in search of him. They saw his slow approach ; and, though sunk in languid debility, such as quenches the fire of mere temperament, they never once hesitated at the alternative set before them. Their fortitude should at least be applauded, though their faith and the hope that supported them, were not taken into the account.

“Nature never meant Donald for a manufacturer : born to cultivate or defend his native soil, he droops and degenerates in any mechanical calling. He feels it as loosing his cast ; and when he begins to be a weaver, he ceases to be a Highlander. Fixing a mountaineer on a loom, too much resembles yoking a deer to a plough, and will not in the end suit much better.” *Essays on the Highlanders.*

CHAPTER VII.

Antiquities and Curiosities of Nature and Art.

THE numerous ANTIQUITIES of Scotland are of Druidical, Roman, Pictish, Anglo-Saxon, and Danish origin. Druidical Monuments are to be found principally in the northern parts, and the adjacent isles, where British paganism sought its last refuge from the light of truth and revelation. They are easily distinguished by their circular forms; but they are not of equal magnitude with those of the same kind in South Britain.

The vestiges of Roman Antiquities, such as the stations of their legions, their castella, and their prætentures, or walls, can now only be discovered by critical inspection. Various Roman coins, urns, utensils, and inscriptions, have been found in several parts, and especially near the site of the celebrated wall which extended from the Firth of Clyde to that of Forth. It was marked out by Agricola, but completed by Antoninus Pius, and is still discernible. This wall, which has been traced with great precision by antiquaries and historians, is called Graham's Dyke by the country people, from a tradition that a Scottish warrior of that name was the first who passed it. The remains of several Roman camps are also visible in this part of Scotland. One, near the foot of the Grampian Hills, is perhaps the most striking and best preserved specimen in North Britain. It is situated at Ardoch, in Perthshire, and is generally thought to have been the camp which Agricola occupied before his engagement with the Caledonian King, Galgacus. The vestiges of this Camp still present five ditches and six ramparts on the south side; and three of the four gates, which led into the area, may yet be distinctly traced. A Roman Temple, in the form of the Pantheon at Rome, stood on the banks of the Carron, supposed to have been built by Agricola, or his successors, and dedicated to their God Terminus, as it stood near the confines of the Empire. This venerable relic of Antiquity was barbarously demolished for the purpose of repairing a mill-pond.

The monuments ascribed to the Piets are a singular kind of buildings. The two principal were hollow columns; the one at Brechin in Angus, and the other at Abernethy, in Perthshire. That at Brechin is the most entire, and is covered with a kind of spiral roof of stone, with three or four windows above the cornice. It consists of regular courses of hewn stone, tapering to the top.

In Perthshire there is a Barrow, which appears to be of British origin, and resembles the hull of a ship with the keel upwards. It is styled *Ternay*, which some have supposed to be a contraction of *Terræ navis*, the ship of earth. Danish camps and fortifications are discernible in several northern counties of Scotland, and are distinguished by their square forms and difficult situations.—The vestiges of ancient Scottish antiquities are often both curious and instructive, as they frequently relate to events in their history; and, from the emblematical figure, with which they are ornamented, were evidently erected to commemorate victories. These monuments are chiefly obelisks, and are commonly called Danish

stones. Of these, the great stone near Fortrose, in Moray, surpasses all the others. According to Mr. *Gordon* it "is perhaps the only one of that kind in Europe; it rises about 23 feet above the ground, and is, I am credibly informed, not less than 12 or 15 below: so that the whole height is at least 35 feet, and its breadth nearly five. It is one entire stone, with a great variety of figures in relief carved on it, and some of them are still visible; but the injury of the weather has obscured those towards the upper part." This monument is by some ascribed to the Danes; while others think it was erected by the Scots in commemoration of the final expulsion of the Danes, as their last settlement was in the shire of Moray.

The wide-spread fame which the celebrated isle of Iona has acquired, demands a more particular account of its relics. In any other situation, and under almost any other circumstances, the architectural ruins of Iona would be consigned to neglect and oblivion. It is not from their magnificence or splendour, from their magnitude or proportions, that they have acquired celebrity, but from their connexion with a barbarous age, and their standing a solitary monument of religion and literature amidst the gloom of ignorance. It is almost impossible for the mind to contemplate the fragments of these venerable structures, now fast mouldering beneath the hand of time, without involuntarily recurring to the period when this little isle was the "light of the western world,"—"a gem in the ocean." "Even at a distance," says Dr. *Macculloch*, in his *Description of the Western Islands*, "the aspect of the Cathedral, insignificant as its dimensions are, produces a strong feeling of delight in him who, long coasting the rugged and barren rocks of Mull, or buffeted by turbulent waves, beholds its tower first rising out of the deep; giving to this desolate region an air of civilization, and recalling the consciousness of that human society, which, presenting elsewhere no visible traces, seems to have abandoned these rocky shores to the cormorant and the sea-gull."

The following perspicuous delineation of these remains of antiquity is extracted from Dr. *Playfair's* Statistical Description of Scotland.

"From the beginning of the 7th century to the reformation, Iona was the seat of the regular clergy of St. Columba. After that period, the learning of ages, the records of nations, and the archives of remote antiquity, were destroyed or removed to Douay College, in France. Some fragments of buildings remain. St. Mary's church, which served as a cathedral of the diocese of the Bishops of the Isles, and is almost entire, was built of red granite, 115 feet long, and 23 broad, with a transept of 70 feet. Over the centre is a handsome tower. From the south-east corner are two parallel walls, 10 feet distant from each other, which reach to the sea. West of the church is a cross of one stone near 8 feet high, and 20 inches broad, and 6 thick. From this place to the nunnery there is a causeway 300 yards in length, and 15 in breadth, intersected at right angles by another of the same kind, that reaches from the shore to the village. On the left hand of it, as you go from the shore to the church, there is a cross of whinstone, 10 feet high, ornamented, but without any inscription. The nunnery is a plain square building; and its church, which contains the tombs of ladies of high rank, is 58 feet long, and 20 broad. St. Oran's chapel, which is 60 by 22 feet, is surrounded by the burying-ground, where, according to tradition, 48 Scots, 4 Irish, and 8 Norwegian chiefs are interred. In 1540, there were three tombs, like little chapels, with an inscription on a broad stone in the gable of each; but scarce a vestige of these tombs now exists. North of the monastery are the remains of a small edifice, called the Bishop's house. Such is the present state of that illustrious island, which was once the seminary of the Caledonian regions, whence savage clans and roving barbarians derived the benefits of knowledge and the blessings of

At Sandwich, in Ross-shire, there is a curious obelisk, but of a more recent date than those above mentioned. It stands on a basement of flat stones rising like steps, and is enriched with various specimens of carved works more highly finished than those on the obelisk near Fortrose. On one face is a large cross with a figure of St. Andrew on each side, and some uncouth forms of animals beneath. The reverse contains figures of birds and animals.—The ruins of Elgin Cathedral present some dignified remains. The west door is highly ornamented, and the whole edifice displays much elaborate workmanship.—Among the ancient castles of North Britain, that of Kildrumny is most distinguished, and was formerly a place of great strength and magnificence, frequently the asylum of noble families in times of civil war and national distress. The castle of Inverugie, is a massy pile, standing on the steep bank of a river, rearing its lofty towers above the aged trees, and appearing majestic even in ruins. At Huntley, also, the remains of a venerable castle attest its former magnificence.

Most mountainous countries abound in interesting scenes and NATURAL CURIOSITIES, nor is Scotland deficient in them. The picturesque falls of the Clyde, near Lanark, and the beauties of Loch Lomond, have excited much attention, and given rise to many animated descriptions. The rocks on the coast of Aberdeenshire frequently assume singular forms of arches and pillars; while the vast basaltic columns between the castle and harbour of Dunbar resemble the Giant's Causeway, in Ireland. Several large caverns in Fifeshire, a petrifying cave at Slains, in Aberbeenshire, and a quantity of sea-shells and white stones, some of them very clear, are to be met with on the top of a mountain in Ross-shire, about twenty miles from the sea. Nor are traces of extinguished volcanoes totally unknown in this country. The hill of Finchaven is one instance, and that of Bergonium, near Dunstaffnage castle, is another. Both of these exhibit large quantities of pumice stone, or scoriæ, of the same kind as those thrown out by the volcanoes of Iceland.

On the Isle of Scalpay, one of the Hebrides, there is a hill which affects the mariner's compass, and causes the needle to deviate 90° from the north towards the west. At Ralphitrisk is the famous ringing stone, about 7 feet long, 6 broad, and $4\frac{1}{2}$ thick. It is of a dull grey colour, spotted with black mica. It is very hard, and when struck with a hammer or stone, sounds like brass, or cast iron.

Between the islands of *Jura* and *Scarba*, is the noted whirlpool, denominated Cor-y-bhreachan, supposed to have derived its name from a Danish prince who perished there. "Soon after the flood tide has entered the sound, the sea at this place is violently agitated. It boils, foams, and passes away in successive whirls. The commotion increases till near the fourth hour of flood, when it is most impetuous. The waves are tossed with a great noise, that may be heard 12 miles distant. But, from the middle of the fifth, to the sixth hour of flood, and in neap-tides, from the fourth to the sixth hour, the commotion gradually abates, until at length it totally subsides; and at the approach of the lowest ebb, the same tranquillity is restored as takes place at high water."

The most eminent natural curiosity in Scotland is the precipitous and columnar island of Staffa. The bending pillars and the noted caves of this small island have often been described. The island itself is an irregular oval, faced with nearly perpendicular rocks, in which various caves yawn and receive the restless waves that dash against the shore. The height of these rocky coasts varies from about 112 feet to less than 10 above the surface of the sea. The natural pillars in many of these places are inclined in various positions from the perpendicular. In some, they are bent so as to resemble the inside timbers of a ship. (See the annexed

plate). In others, where the ends present themselves in forming the surface, they have the appearance of a honey-comb.

The celebrity of this island, however, is chiefly derived from its various caves. The principal of these are the Boat Cave, Mackinnon's Cave, and Fingal's Cave. The Boat Cave apparently derives its name from its being accessible by sea only. This cave is small, but its entrance is highly picturesque, from the symmetry of the columnar surface of the cliff in which it is situated. Its height is about 15 feet, breadth 12, and depth 150 feet. It can be entered by means of boats only, as the tide never ebbs quite out.

Mackinnon's Cave presents an aperture of nearly 50 feet square, with a depth of more than 220 feet, which causes it to reflect a deep shadow, that produces a powerful effect. Its dimensions are nearly the same throughout its extent. The roof and sides, being smooth, are deprived of many of those beauties, which a more varied appearance, accompanied with a symmetrical arrangement of parts, would present.

Fingal's Cave is the most celebrated, and upon it the utmost powers of description have frequently been lavished. It is situated near the eastern extremity of the principal face, and presents two nearly perpendicular sides; with a roof resembling that kind of Gothic arch which is termed the contracted. The height from the surface of the water at mean tide, is about sixty-six feet; and from the top of the arch, to the summit of the cliff, it is thirty feet: the breadth is about 42 feet. The height of the cave soon diminishes to less than fifty feet, and terminates at forty-four, after running into the rock a depth of 227 feet. These are the dimensions given by Dr. Macculloch, who lately measured it; but those given by Sir Joseph Banks, by whom it was first visited, in his voyage to Ireland, are considerably greater. The sides of the cave, like the rock in front, are columnar and nearly perpendicular, and the roof is formed of pillars that have been broken off, which sometimes produce an ornamental effect. The breadth is preserved nearly to the furthest extremity, and the whole cave is lighted from without, so that the end may be distinctly seen. The air is kept in a pure state from the motion occasioned by the flux and reflux of the tide; and as this never ebbs out, it forms the only flooring to the cave.

"It would be no less presumptuous than useless," Dr. Macculloch observes, "to attempt a description of the picturesque effect of that to which the pencil itself is inadequate. But if this cave were even destitute of that order and symmetry, that richness arising from multiplicity of parts, combined with greatness of dimension and simplicity of style, which it possesses, still, the prolonged length, the twilight gloom, half concealing the playful and varying effects of reflected light, the echo of the measured surge as it rises and falls, the of the water, and the profound and fairy solitude of the whole scene, could not fail strongly to impress the mind gifted with any sense of beauty in art or nature."

Many other caves are likewise to be found along the rocky shores of the western islands, but they are greatly inferior, both in magnitude and celebrity, to those above described.

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CHAPTER VIII.

Islands, Colonies, and Settlements.

THE coast of Scotland is surrounded by numerous ISLANDS, many of which rising abruptly from the ocean, are rugged in their aspect, and singular in their shape, being deeply indented by arms of the sea, and separated from each other by narrow channels, through which the tide rushes with great force and rapidity. Some of them are large, others small and uninhabited, while a great proportion are merely barren rocks, which are covered at high water.

These islands are naturally divided into three groups, according to their position and contiguity; the *Hebrides*, or Western Islands; the *Orkneys*; and the *Shetland Islands*. Each of them shall be briefly described.

THE HEBRIDES.—The Hebrides are generally called the Western Isles, from their position with respect to the rest of the country. They are situated between $55^{\circ} 30'$ and $58^{\circ} 28'$ of north latitude; and $4^{\circ} 52'$ and $7^{\circ} 40'$ west longitude; and are about 200 in number, 87 of which are inhabited by nearly 66,000 individuals. As their aggregate area is about 2800 square miles, the number of inhabitants to each will not exceed 24. Only about one-fifth of the surface is cultivated.

The general aspect of these islands is rugged and barren, as they chiefly consist of hills, vallies, lakes, and glens. They contain vast masses of peat earth, intersected with fertile tracts, that are capable of producing excellent crops, if judiciously cultivated. The lakes are estimated at 1500, and supposed to cover 50,000 acres of ground; but they seldom facilitate the communication between one part of the islands and another. Most of the shores are deeply indented with arms of the sea, which afford several good harbours. Various metals and minerals; as iron, copper, lead, marble, free-stone, lime-stone, fuller's-earth, and alum, have been found, but none of them have yet been worked to the greatest advantage. The surrounding sea abounds with excellent fish.

BUTE and ARRAN form a county of themselves, and the rest of the Hebrides belong to the four counties of Argyle, Inverness, Ross, and Cromarty. Nearly half of them, however, are included in Inverness. The situation of these islands, in so high a latitude of the great Atlantic Ocean, renders the climate cold and moist, and exposes them to violent storms from the west and south-west. From these points the wind blows more than eight months in the year; but the intensity of frost is diminished by the vicinity of the sea, which is not more than seven miles from any part of the land. The soil varies in different islands, several of which are barren and mountainous. They produce spontaneously a variety of plants, but few shrubs or trees are to be seen. They participate in the nature of the Highlands, of which they form a part, and their products are similar. The inhabitants are of the same race as the Highlanders, speak the same language, wear the same dress, and observe the same customs. This being premised, a few of the principal shall be briefly described.

SKYE.—This island forms part of Inverness, from which it is separated by a narrow channel. It is one of the largest of the Hebrides, stretching about 45 miles from north to south, and from 12 to 22 from east to west; and containing an area of about 342,400 English acres. Nearly 30,000 of these are arable land, the rest consists of mountains, hills, lakes, morasses, and rocks. Skye is divided into seven parochial districts, and contains 18,000 inhabitants, living chiefly in scattered villages. The surface of this island is extremely rugged. It presents three distinct assemblages of mountains, separated by intervening tracts of high undulating land. Some of the mountains are supposed to be 3000 feet above the level of the sea, and are constantly covered with snow. Skye is so much intersected with bays and arms of the sea, that no part of it is more than four or five miles from the shore. The climate is moist, but mild, compared with the latitude, and few days in the year are entirely free from rain. This island contains almost every variety of soil, except pure sand; and the mountains afford various minerals. Some parts of it also exhibit basaltic columns, resembling those of Staffa. Agriculture has made but little progress, and the quantity of grain raised is consequently small. About 500 tons of kelp are annually produced on its coasts, and nearly 3000 head of black cattle are exported. Three species of serpents are found on the island, but only one of them is poisonous.

Skye, like some of the other larger islands, is the centre of a group. The small isles, which are uninhabited, and only used for pasturage, are denominated *Holms*. On the north-east of Skye are the three islands of Rona, Raasay, and Scalpay; on the south-east, those of Canna, Rum, and Eigg.—**RONA** is a rugged isle, about six miles long, and two broad, with rocky and dangerous shores, but affording pasturage for a few black cattle. **RAASAY** lies south of Rona, and stretches fifteen miles in length, and from one to four in breadth. Its superficies is about thirty-one square miles, and its inhabitants amount to 900. The land rises to a great height towards the western coast, and is in many places steep and broken. The soil consists mostly of peat earth, sand, and gravel; but it has been much improved by the proprietor.—**SCALPAY** is an oval-shaped island, situated on the south-east of Raasay. The land rises gradually on all sides from the shore, and affords good pasturage for cattle.

On passing to the south of Skye, the three isles above-mentioned are situated in a line from south-east to north-east. The most northerly is **CANNA**, a tolerably fertile island, about five miles long, and one broad, with a population of 1000 people. About two-fifths of the surface are cultivated, and 20 tons of kelp are annually made. But the most singular feature of this island is Compass hill, already mentioned in the preceding chapter.—**RUM**, or **RONIN**, lying south-east of Canna, is also an oval-shaped island, nearly nine miles long, and seven at its greatest breadth. About one-seventeenth of its surface is capable of cultivation. Much of it, however, is covered with heath. Some of the mountains abound with agates. The population is about 600. The approach to Rum is difficult.

The island of **EIGG** is nearly six miles long and three at a medial breadth, with a population of 500 individuals. This island has a great resemblance to those above described, but is more columnar. There is a small harbour at the south-west extremity, composed of basaltic rocks. "In the cliffs of the coast are several caves, particularly one where the Macdonalds were murdered by the Macleods of Skye. The entrance is narrow for about 12 feet, after which it becomes more capacious, being 213 feet long, 22 broad, and 17 high. At a short distance westward there is a cave, the entrance of which is about 60 feet, its length 220, and its breadth 30. Here the Roman Catholic inhabitants were wont to attend mass, at the time of the Reformation. The promontory called Scure Eigg, is mural, and

extends upwards of a mile and a half, several hundred feet in height, entirely columnar, in sublimity surpassing Staffa, but less regular and beautiful."

The other small islands or holms in the vicinity of this, do not merit description; but the island of Muck, or Muick, a few miles south-west of Eigg, is a low tract affording good pasturage, and a little tillage, with a population of about 250 individuals.

MULL is divided from Argyleshire (of which it makes a part,) by a narrow channel, and is of a very irregular shape, being about twenty-four miles from north to south, and varying between thirteen and thirty from east to west. It comprises an area of 350 square miles; a small portion of which is in tillage, and the rest pasture and waste. The population in 1811 was 9183. The coasts are steep and precipitous, and contain several deep caverns. Its aspect is rugged, and its surface exhibits a succession of rocks, heath, and swampy morasses, interspersed, towards the sea, with small patches of land capable of cultivation. Flax, oats, barley, and potatoes are produced, but not sufficient to supply the inhabitants. Coals have been found in several places, and a variety of pebbles are met with on the shores. Tobermory bay, in the northern part of the sound of Mull, is the most frequented harbour in the Hebrides. Black cattle and kelp are the chief articles of export, about 600 tons of the one, and 2000 head of the other, being annually exported. The chief town, or rather village, is Tobermory.

The islands nearest to Mull, are Iona and Staffa. IONA or ICOLMKILL, literally signifying the cell of Columba, is a small island situated near the western promontory of Mull, and the most celebrated of the Hebrides. It is about three miles long, and one broad, and much of the surface is capable of cultivation. The climate is mild, the crops are early, and many of the hills covered with verdure during the greater part of the year. The circumstances that render this little island so celebrated, have already been delineated in the preceding chapter.

The small uninhabited island of STAFFA, is eight miles north of Iona, near the west coast of Mull, and one mile long, and half a mile broad. It affords pasturage for a few sheep and goats, and is noted only for its singular grotto and basaltic columns, which have been already described under the head of *Curiosities*.

ULOA and GOMETRA are two small islands, situated about half a mile from the mainland of Mull, stretching about nine miles from east to west, and separated from each other by a narrow strait. They yield grain sufficient for the inhabitants, and a part of Uloa is covered with thriving plantations; but Gometra is destitute of wood. The other neighbouring isles are chiefly holms.

At a still greater distance to the west, but belonging to the same group, are the Isles of COLL and TIREY. Coll is about fourteen miles long, and comprises a surface of twenty-eight square miles, with a population of 1277 individuals. This island is varied with heathy hills, rocks, lakes, corn-fields, and patches of grass. The number of small lakes is nearly fifty. No venomous animals are found here; and its principal produce, like that of most of the other islands, is black cattle and kelp. About 250 of the former, and 55 tons of the latter, are annually exported.

Tirey is situated south-west of Coll, and is twelve miles in length, and from two to seven in breadth, containing an area of nearly 15,360 acres, and supporting a population of 3186 inhabitants. About 600 acres of this surface are occupied by 24 lakes; but nearly half the island is capable of cultivation. Iron-stone, lime-stone, granite, and marble abound. The coasts are generally rocky, and contain various natural caves crowded with sea-fowl. There are also ancient forts, watch-towers, and ruined temples, spread along the shores of both these islands. About 200 black cattle are annually exported, and 250 tons of kelp are made.

As the nucleus of another group, still further to the south, we find **ILA**, or **ISLAY**, and **JURA**, lying near the coast of Argyleshire. The first of these resembles a heart, with its point to the north, from which to the southern extremity is about thirty miles. Its greatest breadth does not exceed twenty-one miles. The surface contains about 154,000 acres. Nearly one-seventh of these is in tillage; two-sevenths are rugged and mountainous; three-sevenths are pastures and woods; while much of the remainder is capable of being reclaimed. Towards the south and west, the surface is diversified by gently-swelling hills, which rise into mountains on the east and north. About 3000 acres are covered by nearly 100 lakes; and among these Loch Finlagan is celebrated as the residence of the great Macdonald, King of the Isles. The ruins of his palace are still visible. The climate is less variable than in many of the other islands. Lead, intermixed with copper, is wrought with advantage. Iron ore has also been found, and lime-stone is plentiful. Black cattle, horses, cheese, butter, bear, oats, meal, whisky, malt, kelp, fern-ashes, and linen yarn, are the principal articles of export. The inhabitants wear the dress, speak the language, and observe the customs of other western Highlanders. They are hospitable to strangers, submissive to their superiors, temperate in their habits, fond of music and dancing, and strongly addicted to a variety of superstitious practices.

JURA, one of the most rugged and romantic islands of the Hebrides, is divided from the north-east of **Ila** by a narrow strait, and from the mainland by the sound of the same name. It is literally a mountain, about twenty miles long, and from two to three broad. The inhabitants, who amount to 1200, reside principally on a narrow flat tract near the eastern coast, and are mostly employed in annually preparing 90 or 100 tons of kelp. Some of the mountains called the paps of Jura, rise more than 2400 feet above the sea; and from their summits the views are singularly grand and extensive. Jura, like many of the other isles, abounds in minerals; and from its northern extremity a chain of rugged islands stretches along the coast of the mainland.

SCARBA is a small rocky island, divided from Jura by a narrow strait. It is of a circular form, and of wild aspect; not more than three miles in diameter, and containing about 50 inhabitants. Between these islands is the whirlpool described under the head of **NATURAL CURIOSITIES**.

EISDALE is likewise a small island in this group, noted for its excellent slate quarries, about five millions of slates being annually prepared for exportation, employing nearly 250 persons.

LISMORE, or the great garden, lying still further north, in the mouth of Loch Lynnhe, is a fertile island, yielding oats, barley, potatoes, and flax, sufficient for the support of 1200 inhabitants. This island contains a stratum of sea-shells twelve or fifteen inches thick, imbedded in a lime-stone rock, several feet above the high water-mark. Lismore still exhibits vestiges of its former grandeur, in the ruins of the Bishop's palace, and the present Church, which was the chancel of the ancient Cathedral. Near the church there is also one of those round towers, so often met with in the western isles.

Besides some of the other small islands near the coast, there are **COLONSAY** and **ORONSAY**, situated at a greater distance from the shore, and west of Jura. These islands are separated from each other by a narrow strait, and together, occupy an extent of twelve or thirteen miles in length, by three at the greatest breadth. The soil and surface are variable, and the population about 900. Some part of the land is under tillage, and the modern system of husbandry has been adopted with success. A quay has been built in Colonsay, where vessels of 400 tons burden may load. There are some plantations in a flourishing state. Remains of ancient

art still adorn these islands ; and the remains of a priory upon Oronsay are among the finest monuments of antiquity in the Hebrides. The church contains the tombs of many ancient islanders ; and the ruins of a cloister, 41 feet square, and of other buildings, are still visible. The shores are productive of kelp, and sea-coral.

The exterior chain of the western isles, which forms a barrier against the Atlantic Ocean, consists of four principal islands, with several of inferior size. These are Lewis, Harris, and North and South Uist, all of which are similar to the interior chain, both in appearance and productions. Lewis and Harris being joined together by a narrow isthmus constitute only one large island. Lewis is the most northern of the Hebrides, being situated about 30 miles from the main land. It is 45 miles long, and from 10 to more than 20 broad ; containing 557 square miles, and about 10,500 inhabitants. The climate is damp and variable, but the winter is mild. A small part of it, only, has been brought into cultivation ; and the unsettled state of the weather, particularly about harvest, is often prejudicial to their crops. Its chief agricultural returns are bear, oats, peas, rye, and potatoes. The coasts are bold and rocky, contain several caves, and are deeply indented by numerous Lochs, which afford excellent anchorage. Among these, Loch-Resort is a long arm of the sea, on the south-west, where a numerous fleet may ride in safety. The only village of note in Lewis is *Stornaway*, which contains about 2400 inhabitants.

HARRIS is joined to the southern part of Lewis by a narrow neck of land, dry at low water, and is divided into two parts by Loch-Tarbet. The southern district is a parallelogram about 12 miles long, and seven or eight broad. The western coast is flat and verdant, but the eastern is one series of rocks indented with creeks and harbours. The northern part is nearly of equal extent, and its surface consists of rocks interspersed with coarse pasturage, and numerous lakes, well stocked with fish. The shores are thinly peopled and miserably cultivated. The soil is poor and sandy, and neither lime-stone nor loam is found in the island. About 450 tons of kelp are annually made, and a few black cattle supported. Several small isles, with the same aspect, surround the shores of Harris. Of these *Taransay*, *Pabbay*, *Scarp*, and others lie off the western coast, and *Glass Island* in the bay of Tarbet on the eastern.

The other two chief islands of this exterior chain are North and South Uist. The first is divided from the south of Harris by a sound about nine miles in width, and is nearly 16 miles long and from 6 to 12 broad. Including the numerous small islands by which it is surrounded, and the lakes that diversify its surface, the whole area is 118 square miles, supporting about 4000 individuals.

The general aspect of this island is cheerless and gloomy. A dark, barren, heathy surface, swelling into hills of moderate elevation, forms the greater part of it. The cultivated district lies near the sea on the north and west sides, and is confined to a sandy tract, about a mile and a half in breadth. The *climate* is also extremely variable. High gales of wind prevail from the west, and, about the equinoxes, storms often happen which prove fatal to both corn and cattle. During the greater part of the year, westerly winds, accompanied by hazy weather, are common ; yet the climate is not considered insalubrious. The western shore is completely defended from the approach of vessels of any burden, by rocks, shoals, and breakers ; but the eastern coast, except where it is indented by arms of the sea by which its harbours are formed, is composed of one extensive and craggy precipice. About 1000 or 1200 tons of kelp are yearly manufactured on its coasts, which are surrounded by *Berneray*, *Rona*, *Heray*, and other small islands, but their resemblance to the central nucleus precludes the necessity of description.

SOUTH UIST, which is much more regular in its shape than its northern companion, is about 20 miles long and from four to eight broad; containing an area of 127 square miles. The general aspect is mountainous. Not more than one-fifth of its surface is cultivated; and this is chiefly on the western side, which declines towards the sea, and terminates in a sandy beach, perpetually encroached upon by the Atlantic. The soil of the arable part is light and sandy; but the eastern regions consist of steep and lofty hills, covered with heath and yielding a scanty pasturage. The eastern shore, which is rocky and indented with lochs, presents some commodious harbours.

BENBECULA is about eight miles in length and five at a medial breadth. It lies in the channel between north and south Uist, and is separated from the latter by a narrow strait, fordable at low water. The surface and soil resemble those of Uist, and it is surrounded by a number of small islets, the whole group forming an area of nearly 43 square miles.

BARRAY is also a considerable island, situated a few miles south-west of Uist, and about the 57" of latitude. Its shape is irregular, and it is chiefly in pasturage. A small part, however, is cultivated, which yields but a scanty supply to the inhabitants. *Watersay, Sanderay, Pabbay, Mingalay, and Berneray*, are all situated south of Barray, which they resemble, and each of them is inhabited by a few families.

THE ORKNEYS.—These were the *Orcades* of the ancients, and are divided from the north of Scotland by Pentland Firth, a channel about 10 miles broad.

The Orkney Islands lie between 58° 3' and 59° 45' north latitude, and 2° 0' and 3° 14' west longitude. Twenty-nine of them are inhabited, and thirty-eight are merely holms. There are, also, several barren rocks, covered with the tide at high water. Both the shape and size of these islands are greatly diversified, and they are spread over a surface of 70 miles in length, and 40 in breadth. "The east and north coasts, in general, are low. The western coasts are more elevated and terminate in bold and steep cliffs, exhibiting a thousand different shapes, which form a scene highly picturesque and interesting. Appearances justify the conclusion, that anciently they were united, and perhaps composed a portion of Great Britain. Contiguous islands exhibit, on their shores, many qualities in common; and the water between them in several places, is so shallow, as to render navigation dangerous even for small craft. In the Firth, by which they are separated from Caithness, there are several islands, and the shores, on both sides, contain many points of resemblance. The elevation, the nature of the rocks, their direction, and the angle they form with the horizon, are similar on both sides; while the strata in the two head-lands, which may be considered as the jaws of the Pentland Firth, are the same."

The soil of these islands contains abundance of peat-moss, and other kinds of bog, in the elevated districts. The vallies are chiefly combinations of sand, clay, and gravel, on a bed of rocks, and generally in a neglected state of cultivation. The whole surface has been estimated at 384,000 acres, supposed to be divided in the following proportions. Heath and moss 290,000 acres; green pastures uninclosed 30,000; inclosed pasture 30,000; arable land, including gardens, &c. 24,000; total of the productive land 84,000. Houses, roads, &c. occupy about 2000, and lakes 4000. Though the improved system of agriculture has not been adopted, the produce is sufficient for the support of the population, which, including that of the Shetland isles, in 1811 amounted to 46,163.

The climate is variable, and the south-west and south-east winds often blow with great violence, while the north and north-east winds are sometimes accompanied with snow and showers of hail, in June, which of course greatly injures the crops. The mean heat of summer is about 45°, and the range of the ther-

mometer from 25° to 75°. The aurora borealis is often very splendid. Traces of lead and iron ore have been found, and stone of various kinds is common; but, generally speaking, the Orkneys contain little that is interesting to the mineralogist.

Under these circumstances it cannot be supposed that *manufactures* and *commerce* have made much progress. Linen, coarse woollen cloth, stockings, and blankets are made, but linen is their staple article. In some years 50,000 yards are manufactured. Much yarn is also disposed of unwrought. Making kelp employs nearly 3000 people, and about 2500 tons are annually produced. Fisheries have not received their due share of attention. Lobsters, however, to the value of £1000, are sent to the London markets every year, and the herring and cod fisheries, if prosecuted with assiduity, could not fail of being highly beneficial.

Want of capital and enterprise has prevented the inhabitants of these islands from engaging in extensive commercial transactions. The chief exports are beef, pork, butter, tallow, hides, salt fish, oil, feathers, linen, yarn, and kelp, with a little grain in favourable years. The imports embrace iron, wood, flax, coal, colonial produce, soap, leather, hardware, broad cloth, and printed cottons.

The *Manners* and *Customs* of the inhabitants are similar to those of the Highlanders. They are tall, robust, and well made; but indolent, superstitious, and credulous; strongly attached to old customs, and consequently averse to improvements. They are hospitable to strangers, and respectful to their superiors.

In addition to this brief delineation of the general features, a mere enumeration of the principal islands will be sufficient. The largest is POMONA, or mainland, which is very irregularly shaped, and situated near the centre of the group. The greatest length is about 25 miles; its breadth varies from 9 to 16; and the whole surface occupies about 212 square miles. The parallel of 59° runs through the middle of the island. *Kirkwall*, the capital, is a small, well-built trading town, and a royal burgh, carrying on a greater commerce than any other town in the Orkneys.

Several of the round buildings, called Picts' houses, which are of a conical shape, and from 50 to 100 feet in diameter, are found in this island. *Stromness*, a village near the western Promontory, has likewise some trade. *Hoy*, *South Ronaldshay*, *Burray*, *Gremsay*, *Faray*, *Coway*, *Swanay*, and *Copinshay*, are the chief islands south of Pomona. Of these, *Hoy*, *Ronaldshay*, and *Burray*, are the largest. *Hoy* is the highest land in the group; and on the north-west coast there is a bay in which shipping of 500 or 600 tons burden may ride in safety.

The principal islands north of the mainland are *Shapinshay*, *Rowsay*, *Eagle shay*, *Eday*, *Stronsay*, *Sunday*, *Westray*, *Papa Westray*, *North Ronaldshay*, *Vera*, and *Gairsay*. The others are small, and each of them occupied only by a few families.

SHETLAND ISLANDS.—The Shetland Islands, which with the Orkneys form one of the counties of Scotland, and send a representative to the Imperial Parliament, are about 18 leagues north-east of the Orkneys, and stretch to 61° 11' north latitude. Seventeen of them are inhabited by a population of 21,470 individuals. The general aspect of the isles is rugged and sterile. The soil varies greatly; moss and heath abound; and the cultivated lands are a mixture of clay and small stones. The western parts are peculiarly wild, dreary, and desolate. The *climate* is nearly the same as that of the Orkneys. During the summer they have almost perpetual day, but in winter they are enveloped in fogs, storms, and darkness. The frost is not intense, nor snow of long continuance; but the weather is often changeable, and tempestuous winds are very frequent. These islands contain about 25,000 English acres of arable land, and nearly 23,000 of good meadow and pasture. Agriculture is still in the rudest state. the stock of the

smallest kind, and the farm-houses merely earthen hovels. Sheep form the principal part of this stock, and are noted for the fineness of their wool, but the great source of employment and profit are the fisheries, which the recent discoveries, mentioned in a former chapter of this work, promise to render the most productive in Europe. Sheep, wool, feathers, black cattle, butter, and small ponies, are the chief exports; the imports are the same as those of the Orkneys.

Shetland, or the mainland, stretches about sixty miles from north to south, and from six to eighteen east and west, containing 14,000 inhabitants. This island is so deeply indented by the sea, that the whole extent of its coast is nearly 300 miles, and no part of the surface is more than five miles from the shore. The interior is craggy and barren; but verdant slopes, marshy plains, and cultivated tracts occur along the coast, although not more than three parts in a hundred are in tillage. The highest point in the island is *Rona*, near the north-west extremity, which is nearly 2000 feet above the level of the sea. Upon this summit there is a house capable of containing six or seven persons, constructed of four large stones, with two others inclining against each other, and forming a roof. The principal town in the island, and the capital of the whole group, is *Lerwick*, a small trading town, with a population of about 1400 inhabitants. *Lerwick* is situated on the east coast; and *Scallaway* is an ancient but poor village on the opposite shore.

BRESSAY and *Noss* are two small islands off the eastern coast of the mainland. The pastures of the first, feed great numbers of sheep, cattle, and diminutive horses, from which, in addition to the fisheries, the inhabitants derive their chief support. *Noss* is a small fertile island, near which a holm rises above 150 feet perpendicularly from the sea. The rock on the opposite coast of *Noss* is nearly the same height; and the distance between them, about 200 feet. Ropes are stretched from the summits of these rocks, and a sliding cradle forms a communication between them. The population of these islands is nearly 670.

WHALSEY ISLAND, situated north of *Bressay*, is about eight miles long, and contains a population of 700 individuals, who are almost solely employed in fishing.

YELL, divided from the north-east coast of the mainland, by a strait of four miles broad, is the most bleak and barren of all the Shetland isles. Its area is estimated at 150 square miles, but it is very thinly inhabited.

FETLAR lies a few miles east of *Yell*. It is five miles long, and between two and three broad, containing about 400 acres of cultivated land. This small island is noted for iron, copper, granite, rock-crystal, and fuller's-earth; plumbago has also been found here.

UNST is situated still more to the north-east, and contains a diversified surface of about forty square miles, nearly 1880 acres of which are cultivated. The common products are bear, oats, potatoes, cabbages, and other vegetables. Some of the hills also contain several kinds of stone, jasper, and rock-crystal. Off the north-east point of this island, which is in latitude 62 degrees, the current flows with such rapidity during spring tides, that it is dangerous for the fishermen in the calmest weather.

FOULA, lying about seven leagues west of the mainland, is a high rocky island, four miles long, and between one and two broad. It yields pasturage for cattle and sheep, and has a population of about 150 inhabitants, among whom civilization is said to have made less progress than among any other people in the British European dominions.

FAIR ISLAND is about thirty miles from the southern point of the mainland of Shetland, and contains an area of three square miles, only about seventy-five acres of which are cultivated. The number of inhabitants exceed 200: and it was on

the south-east of this rocky coast that the flag-ship of the Spanish Armada perished in 1588. The remainder of these islands are all too small and too unimportant to be enumerated.—The Shetland Islands form one Presbytery, and are divided into eleven parishes.

“The cottages are nearly the same in every parish. The walls are imperfectly built with stone and clay, and the wood of the roof is first covered with thin turf, called *pones* or *flaas*, and afterwards thatched with straw. The house consists of two apartments with only one fire-place, on the middle of the largest room; and a hole in the roof is the only outlet for the smoke. The practice of building regular chimneys is beginning to be more general than formerly.

In the dress of the Zetland peasants there is little which may be considered as peculiar. When at home, and engaged in agricultural occupations, both men and women wear the manufacture of their country; the former using the *wadmill*, or claih, and the latter different kinds of coarse stuff; and instead of linen, they employ a species of flannel made from the wool of the sheep. The men make a kind of shoes or sandals of the untanned skins of cattle or seals, which are called *riwlins*; they are light and warm, and wear a long time. They use the tanned sheep-skin as a fishing dress. When at church, or at a festival, they are as decently clothed as the peasantry in Britain. The food of the lower class of people in Zetland, consists chiefly of bread, milk, and fish. Some of them have small quantities of mutton and pork, but few can afford beef.

“Both men and women, who compose the lower class of people in Zetland, are, generally speaking, well proportioned, of fair complexions, and an agreeable expression of countenance. The men are stout and muscular, capable of enduring great degrees of fatigue, and of a very enterprising spirit. Many of the women are handsome, and possessed of much feminine softness of manner. The young of both sexes pay great attention to the growth of their hair, which is esteemed in proportion to its length. The men are in general indolent, and averse to any steady exertion. The women, on the contrary, are active and industrious. So very inactive are the former, that it is difficult to get them to any labour in winter, even when the wages are high. The peasants of Zetland are very superstitious, and they firmly believe in necromancy.”—*Dr. Edmondston's View of the Zetland Isles.*

As Scotland forms part of the British Empire, it cannot, of course, have either COLONIES or SETTLEMENTS distinct from the general body.

CHAPTER IX.

Statistical and Synoptical Tables.

TABLE I.

COMPARATIVE STATEMENT of the POPULATION of the several Counties of SCOTLAND, in the years 1801 and 1811; showing the Increase or Diminution, together with the State of the Returns made according to Act of Parliament.

Shires.	Population 1801.			Increase.	Dimi- nution.	Population 1811.		
	Males.	Females.	Total.			Males.	Females.	Total.
Aberdeen	55,625	67,457	123,082	13,821	—	60,973	75,930	136,903
Argyle	33,767	38,092	71,859	13,726	—	40,675	44,910	85,585
Ayr	39,666	44,640	84,306	19,648	—	48,506	55,448	103,954
Banff	16,067	19,740	35,807	—	1707	14,911	19,189	34,100
Berwick	14,294	16,327	30,621	158	—	14,466	16,313	30,779
Bute	5,552	6,239	11,791	242	—	5,545	6,488	12,033
Caithness	10,183	12,426	22,609	810	—	10,608	12,811	23,419
Clackmannan	5,064	5,794	10,858	1,152	—	5,715	6,295	12,010
Dunbarton	9,796	10,914	20,710	3,479	—	11,369	12,820	24,189
Dumfries	25,407	29,190	54,597	8,363	—	29,347	33,613	62,960
Edinburgh	54,224	68,730	122,954	25,490	—	64,903	83,541	148,444
Elgin	11,763	14,942	26,705	1,403	—	12,401	15,707	28,108
Fife	42,932	50,791	93,743	7,529	—	45,968	55,304	101,272
Forfar	45,461	53,666	99,127	8,137	—	48,151	59,113	107,264
Haddington	13,890	16,096	29,986	1,178	—	14,232	16,932	31,164
Inverness	33,801	40,491	74,292	4,123	—	35,749	42,666	78,415
Kincardine	12,104	14,245	26,349	1,090	—	12,580	14,859	27,439
Kinross	3,116	3,609	6,725	520	—	3,466	3,779	7,245
Kircudbright	13,619	15,592	29,211	4,473	—	15,788	17,896	33,684
Lanark	68,100	78,599	146,699	45,053	—	88,688	103,064	191,752
Linlithgow	8,129	9,715	17,844	1,607	—	8,874	10,577	19,451
Nairn	3,639	4,618	8,257	—	6	3,530	4,721	8,251
Orkney and Shetland ..	20,793	26,031	46,824	—	671	20,151	26,002	46,153
Peebles	4,160	4,575	8,735	1,200	—	4,846	5,089	9,935
Perth	58,908	67,558	126,366	8,727	—	64,034	71,059	135,093
Renfrew	36,068	41,988	78,056	14,540	—	41,960	50,636	92,596
Ross and Cromarty	25,494	29,849	55,343	5,510	—	27,640	33,213	60,853
Roxburgh	15,813	17,869	33,682	3,548	—	17,113	20,117	37,230
Selkirk	2,356	2,714	5,070	819	—	2,750	3,139	5,889
Stirling	23,875	26,950	50,825	7,349	—	27,745	30,429	58,174
Sutherland	10,425	12,692	23,117	512	—	10,488	13,141	23,629
Wighton	10,570	12,348	22,918	3,973	—	12,205	14,686	26,891
Total	734,581	864,487	1,599,068	208,180	2384	825,377	979,487	1,804,864

SUMMARY FOR GREAT BRITAIN.

	Population 1801			Increase.	Dimi- nution.	Population 1811.		
	Males.	Females.	Total.			Males.	Females.	Total.
England	3,987,935	4,343,499	8,331,434	1,167,966	—	4,555,257	4,944,143	9,499,400
Wales	257,178	284,368	541,546	65,834	—	289,414	317,966	607,380
Scotland	734,581	864,487	1,599,068	208,180	2384	825,377	979,487	1,804,864
Army, Navy, &c.	470,598	—	470,598	169,902	—	640,500	—	640,500
Total	5,450,292	5,492,354	10,942,646	1,611,882	2384	6,310,548	6,241,596	12,552,144

MEM. The same remarks apply to the Table relative to the population of SCOTLAND, as to those respecting ENGLAND and WALES. See page 140

TABLE II.

Heights of Mountains and other Places in Scotland.

<i>Counties.</i>	<i>Mountains.</i>	<i>Feet.</i>	<i>Counties.</i>	<i>Mountains.</i>	<i>Feet.</i>
Aberdeenshire	Ben Avon	3929	Kincardineshire	Cairnmorearn	1020
	Benmacdowie	4300		Kerloch	1890
	Benochie	1500		Klochnabane	1370
	Cabrach, buck of..	2377		Mount Battock ...	3465
	Carneach	2700	Kircudbrightshire ...	Cainharrow	1110
	Cairntoul	4220		Cairnsmuir	2597
	Mormond	810		Criffell	1831
	Morven	2880		Coulter fell	2440
Argyleshire	Noath	1830	Lanarkshire	Lauders	3150
	Coblar of Arroquhar	2389		Leadhills	1564
	Crnachan ben	3390		Tinto hill	2306
	Dunroich	750		Walton mount ..	1556
Arran	Jura, Paps of	2420	Linlithgowshire	Westraw hill ...	1000
	Goat fell	2950		Cairn Naple	1492
Ayrshire	Cairntable	1650		Broadlaw	2741
	Carleton	1520		Dundroich	2100
	Knockdaw	1535	Peebles-shire	Guncleugh	2200
	Knockdolian	2090		Hartfield	2818
Banffshire	Knocknunan	1540		Hell's cleugh	2100
	Benrinnes	2747		Minchmoor	2000
	Cairngorm	4080		Whitcomb hill ...	2685
	Knockhill	2500	Perthshire	Athol house	425
Berwickshire	Dunse law	630		Barry hill	663
	Cockburn law	900		Belmont lawn	204
Caithness	Ord of Caithness..	1250		Benderig	3550
	Pap of Caithness ..	1229		Benglo	3650
Dumfries-shire	Black larg	2890		Benlawers	3978
	Cairnkinnow	2080		Ben ledi	3009
	Constitution hill..	1032		Benmore	3844
	Erickstane brae ..	1118		Benvorlich	3300
	Hartfell	3302		Birnam hill	1580
	Lowther hill	3100		Castle Menzies ..	280
	Queensberry hill ..	2259		Dunsinuan hill...	1012
	Wisp hill	1940		King's seat	1259
	Allermore	1616		Mount Blair	2463
	Arthur seat	822		Schehallian	3673
Edinburghshire	Black hill	1878		Farragon	2535
	Calton hill	356	Renfrewshire	Balagich	1000
	Carnethy	1864		Craig of Nielston..	820
	Castlelaw hill	1399		Misti law	1240
	Corstorphine hill ..	470		Stanley brae	620
	Cross of Edinburgh	277	Ross-shire	Ben wyvis	4380
	Hawkhill	115		Cheviot hill	2658
	Kirkyetton	1560		Duncan hill	1031
	Muirfoot hill	1850—		Eildon hills	1360
	Piazza of the Abbey	117	Roxburghshire	Mellenwood fell ..	2000
	Salisbury Craigs ..	550		Rubers law	1419
	St. Andrew's Church	215		Megg's hill	1480
Fife-shire	Kelly law	810		Blackhouse heights	2370
	Largo law	952	Selkirkshire	Etterick pen	2220
	Lomond East	1460		Hainingshaw law..	1780
	— West	1721		Minchmoor	1877
Forfarshire	Cathlaw	2264		Ward law	1900
	Craigowl	1600		Windlestraw law..	2295
	Dundee law	525	Shetland	Rona	3944
	Dunnichen hill	720		Alva hill	1600
Haddingtonshire	Kinpurnie hill	1150	Stirlingshire	Bencleugh	2200
	Sidla hill	1406		Ben-lomond	3240
	N. Berwick law ..	940		Campsie hills	1500
Inverness	Ben nevis	4380	Wigtonshire	Knock of Luce ..	1014
	Mealfourvounie ..	2730		Larg	1758
	Scarsough	3412		Mochrum fell	1020
	Scurdonuill	2730			

Latitudes and Longitudes of the Principal Islands

Names of Places.	Latitude.	Longitude.
Aberdeen	57 9 0 N	2 5 20 W
Ailsa rock	55 15 0	5 9 0
Andrew's, St.	56 18 0	2 50 30
Arbroath	56 35 0	2 37 0
Ardrnamureban	56 45 0	6 7 0
Arthur's Seat	55 57 18	3 10 0
Ayr-point-light-house	55 26 0	4 0 0
Banff	57 40 30	2 35 0
Base rock	56 4 53	2 37 57
Belmont	56 35 0	3 11 15
Ben nevis	56 49 0	5 2 0
Bell rock	56 26 30	2 26 0
Berwick	55 46 21	1 59 41
Bervie	56 40 0	2 5 30
Berwick law, N	56 3 8	1 42 11
Buthan-neas	57 56 0	1 47 0
Campbelton	55 26 0	5 32 22
Canna	58 3 45	6 24 52
Caithness-point	55 46 0	3 22 0
Cheviot hills	55 28 52	2 8 12
Clackmannan	56 5 0	3 45 0
Cromarty	57 43 0	4 2 0
Cullen	57 42 0	2 50 0
Cumbray Light-house	55 43 0	4 57 0
Dingwall	57 33 30	4 23 30
Dornoch	57 52 0	3 53 29
Dumfries	55 8 20	4 25 18
Dunbar	56 0 30	2 33 0
Dunbarton	55 56 30	4 21 0
Duncansby-head	58 39 0	3 7 0
Dundee	56 25 0	3 2 15
Dunse	55 46 50	2 19 58
Edinburgh, Observatory	55 57 20	3 1 40
Elgin	57 37 0	3 20 0
Fairhill, Orkneys	59 28 0	1 54 0
Fair-head	68 40 0	5 3 0
Fife-nets	56 16 30	2 37 0
Fortrose	57 40 0	4 7 0
Fort Augustus	57 9 0	4 39 40
Fort George	57 30 0	4 5 0
Fort William	56 49 42	5 6 30
Garmouth	57 40 45	3 8 36
Glasgow	55 51 32	4 17 45
Gordon Castle	57 38 0	3 8 30
Greenock	56 57 0	4 44 0
Headington	55 58 0	3 44 20
Hawthorn	55 58 28	3 10 7
Inverary	56 52 0	5 25 0
Inverchapel	56 52 0	5 25 0
Inverness	57 52 0	5 25 0
Jedburgh	55 52 0	5 25 0
Kilda, St.	56 52 0	5 25 0
Kilmord-head	56 52 0	5 25 0
Kilross	56 52 0	5 25 0
Kirkcubright	56 52 0	5 25 0
Kirkcubright	56 52 0	5 25 0
Leith	56 0 0	2 11 0
Loch-Laxford	56 52 0	5 25 0
May Island	56 11 55	2 26 27
Montrose-neas	56 23 0	2 26 27
Mull of Galloway	56 38 0	5 5 0
Nairn	57 38 0	5 5 0
Noss-head	58 28 0	3 37 0
Ork-head	58 10 0	3 37 0
Paisley	55 52 0	4 22 0
Peebles	55 52 0	3 12 30
Pentland Skerries	56 42 0	3 1 0
Perth	56 23 0	2 26 27
Peterhead	57 38 30	5 6 30
Pittenweem	56 12 45	2 43 2
Port Glasgow	55 56 0	4 40 0
Port Patrick	54 49 0	3 2 0
Red-head	56 57 0	2 31 0
Renfrew	55 51 0	4 31 0
Ronaldsay, Cape	59 22 0	2 35 0
Rothsay	55 50 30	5 2 0
St. Abb's-head	55 54 30	2 12 0
St. Andrew's	56 19 33	2 10 12
Schehallion	56 40 0	4 6 30
Seikirk	55 26 0	2 51 33
Soutra hill	55 51 1	2 45 6
Speymouth	57 41 45	2 26 0
Stirling	56 8 0	3 29 20
Stonehaven	56 28 0	3 14 0
Stornaway	58 12 5	3 18 7
Stromness, Isle	58 56 9	3 21 5
Tarbet, Cantyre	55 52 0	3 20 0
Tarbet-neas	57 54 0	3 25 0
Tobermory	56 55 5	2 45 32
Ullapool	57 33 40	3 1 52
Unst, island	60 40 0	0 42 55
Wick	58 32 0	3 2 20
Wigton	55 0 0	4 25 20
Wrath, Cape	58 36 20	4 25 0

WEIGHTS AND MEASURES.

By the articles of the Union of England and Scotland, it was enacted that the weights and measures should be the same in both Countries; and a subsequent enactment ordered, that the Winchester measure should be the only one used; yet the weights and measures of Scotland, are not only different from those of England, but vary in different counties, and even in different parts of the same county. Nor is the same measure used for wheat as for other kinds of Grain, though called by the same name.

At the Custom Houses, and other places, where Government is one of the parties, the Winchester bushel, and the English weights, are always used. The mile is the same throughout Scotland as in England; and the English acre is likewise adopted in some of the southern counties, but in the others the Scotch acre is employed.

The following statement shows the weights and measures most commonly used, and the variation from standard in each.

The pound of 16 oz.	equal to	1 00909 lbs.	Eng.	Avoirdupois.
The Peck of Meal 8 lbs.		8 71572		ditto.
The Hail of Meal 8 stricks, or 16 pecks		130 40362		ditto.
The pound of Troy Weight, used for gold, silver, &c. 24 oz.		1 4975		ditto.

The total liquid measures	109'866 English cubic inches
For Wheat, Rye, Barley, and Oats	8'17456 Gal. Wine measure
For Malt, Berley, and Oats	11'92516 Gallons

The sound of warships at the Water Gate, the British Museum
The book divided like the English
The silence is not, is not, is not

IRELAND



I R E L A N D.

CHAPTER I.

Name—Situation—Boundaries—Extent—Population—Original Inhabitants—Progressive Geography—Present Division, and Distribution of the Inhabitants.

IRELAND, called ERIN by the natives, is a term supposed to have been derived from *Iris*, or *Iri*, first mentioned in *Diodorus Siculus*. From the authorities quoted by Mr. Wakefield, this appears to have been the original name of the Island, and was bestowed by the Teutonic tribes, who, at an early period, occupied a great part of Europe. Erin is derived from the Teutonic word *Er-aii*, contracted into *Eri*, signifying the further island. *Iri*, or *Eri*, as it is now written, signifies, in the Irish language, the Great Island. *Cæsar*, the first Roman writer who noticed this island, calls it *Hybernia*, which some have traced to the Phœnician word *Iber-nae*, or further habitation, but others have asserted, that it was conferred by the Romans, on account of the supposed coldness of the country. It is subsequently mentioned by *Tacitus* and other writers, under the name of *Ierne*, and similar appellations.

Ireland is SITUATED in the Atlantic ocean, west of Great Britain, and between $51^{\circ} 20'$, and $55^{\circ} 30'$ of north latitude, and $5^{\circ} 50'$, and $10^{\circ} 40'$ west longitude. The Atlantic is therefore the general BOUNDARY; but the branch which separates it from Great Britain, consists of the Irish sea, St. George's, and the North Channel. This last divides Ireland from Scotland, and is the narrowest part, as the Mull of Cantyre approaches within sixteen miles of the Irish coast.

The shape of this island is an irregular oblong, stretching nearly in the direction of the meridian, with its southern extremity inclining towards the west. Its greatest extent is, therefore, from north-east to south-west, and a line drawn from the extremity of the county of Antrim to that of Cork, exceeds 300 English miles; but the greatest meridional length is only 240. The breadth of Ireland is very unequal, in consequence of the deep bays which indent its western coast. It varies from about 200 miles to less than 100. The bays of Galway and Dublin, about the middle of the opposite coasts, are nearly 120 miles from each other; but there is not a place on the island much more than 50 miles from the sea.

The difficulty of estimating the area of a country thus intersected by the ocean, except by an actual survey, has occasioned great diversity in the statements on this subject. Some authors have stated the superficial extent at 27,457 square miles; Dr. *Beaufort* at 30,370; and Mr. *Wakefield*, including the whole surface of the inland waters, at 32,201 square miles.

As no actual enumeration of the inhabitants has been made, the population cannot be correctly given. It has been rapidly increasing for the last 50 years,

and many parts are very populous, though others are nearly destitute of inhabitants. The total number, however, is about *five millions*. Adopting this estimate as the actual amount, and that of 30,370 square miles as the extent of surface, the average number of inhabitants on each square mile will be about 165. Mr. *Newenham*, indeed, stated the population in 1804 at 5,395,436; and allowing for the increase which has since taken place, it would now be about five millions and a half. Comparing this with Mr. *Wakefield's* estimate of the area, it will give about 170 persons to each square mile.

Various opinions have been entertained respecting the ORIGINAL POPULATION of this island. The most authentic account is, that after the Celts had been driven, by their more warlike neighbours, to the western shores of Gaul, they passed into Britain, and thence into Ireland. At what precise epoch this took place cannot now be ascertained. These Celts were afterwards followed by tribes of Goths, as the names by which *Ptolemy* designates some of the people who inhabited Ireland in his time, have sprung from a Gothic origin. The early inhabitants are the *Firbolg* of Irish history. *Orosius* also states that, in the 5th century, a number of Scythians, who had been driven from the north of Spain by the Emperor Constantine, took refuge in Ireland; and this circumstance is strongly corroborated by the present customs and appearance of the southern Irish, who are distinct from those of the north, and bear a striking resemblance to the inhabitants of Biscay and the adjacent provinces. Their practice of building their villages in rows, or streets, at right angles to the roads, in some parts, both of Ireland and Spain, while in others they are placed parallel to them, also seems to indicate an identity of origin. A remarkable fact, which bears directly upon this point, deserves to be mentioned. A Consul from one of the Barbary States, who had resided many years in England, visited the sister island, and, on arriving at Kilkenny, was greatly surprised at being able to converse with the inhabitants in their native dialect. Spain was partially peopled by African colonies; and this circumstance can only be accounted for, by supposing some of them to have passed from that country into Ireland, as stated by *Orosius*.

The earliest document on the PROGRESSIVE GEOGRAPHY of Ireland, is the map of that island by *Ptolemy*, and, considering the period at which it was constructed, as well as the remote situation of the country, the general outlines, and principal features, are very correct, particularly when compared with those of some other countries much nearer the centre of the civilized world. *Ptolemy* also mentions ten considerable towns, of which *Elbana*, the present Dublin, was the principal. Ireland was involved in the greatest obscurity during the middle ages; and though it became subject to the English in the reign of Henry II., little was known respecting it till the time of Queen Elizabeth, when *Stanihurst*, *Camden*, and *Spenser* published their descriptions. The geography of some of the western parts is not even yet free from imperfection. The division of Ireland into counties was finally established in the reign of Charles I.; and Sir *William Petty's* survey, from which the maps of the several counties, published in 1685, were constructed, contributed to diffuse a better knowledge of the country, and has been the ground-work of most of those that have since appeared.

Ireland is at present divided into four *Provinces*, which, with their relative positions and respective areas, according to Mr. *Wakefield's* computation, are,

Ulster, on the north.....	8375 square miles.
Leinster, on the east.....	7360 ditto.
Connaught, on the west.....	7190 ditto.
Munster, on the south.....	3276 ditto.

These provinces are divided into 32 counties, which are subdivided into baronies, and these into parishes; but the first of these divisions alone belongs to geography. The following list comprises the counties, with their areas in square English miles, the number of members each sends to the Imperial Parliament, the county towns, and the number of inhabitants in each, as far as they have been ascertained.

PROVINCE OF ULSTER.

<i>Counties.</i>	<i>Areas.</i>	<i>No. of Mem.</i>		<i>County Towns.</i>	<i>Population of Towns.</i>
1. Antrim.....	1018	....	5	Carrickfergus	3,400
2. Armagh	451	....	3	Armagh... ..	6,000
3. Cavan	758	....	2	Cavan	3,000
4. Fermanagh	694	....	3	Enniskillen	3,210
5. Donegal	1725	....	2	Lifford	
6. Down	936	....	4	Downpatrick.....	5,000
7. Londonderry....	837	....	4	Londonderry.....	10,000
8. Monaghan	509	....	2	Monaghan.....	
9. Tyrone.....	1271	....	3	Omagh	

PROVINCE OF LEINSTER.

1. Carlow.....	346	....	3	Carlow	6,570
2. Dublin.....	388	....	5	Dublin	190,000
3. Kildare.....	619	....	2	Kildare.....	
4. Kilkenny	773	....	3	Kilkenny	14,975
5. King's County..	661	....	2	Philipstown	
6. Longford	366	....	2	Longford	
7. Louth	329	....	4	Drogheda	15,000
8. Meath	965	....	2	Trim	
9. Queen's County	602	....	3	Maryborough	
10. Westmeath	592	....	3	Mullingar	
11. Wexford	934	....	4	Wexford	5,920
12. Wicklow	781	....	2	Wicklow	

PROVINCE OF CONNAUGHT.

1. Galway	2593	....	3	Galway	15,000
2. Leitrim	604	....	2	Carrick on Shannon.	
3. Mayo	2339	....	2	Castlebar	
4. Roscommon	891	....	2	Roscommon	
5. Sligo	727	....	3	Sligo	7,000

PROVINCE OF MUNSTER.

1. Clare	1125	....	3	Ennis.....	
2. Cork	2990	....	8	Cork	90,000
3. Kerry	1763	....	3	Tralee	7,000
4. Limerick	1045	....	3	Limerick	60,000
5. Tipperary	1591	....	4	Cashel	4,200
6. Waterford	710	....	4	Waterford.....	40,000

From the deficiency of regular returns, by which the actual population might be ascertained in all its local details, it is difficult to present a correct view of the manner in which the inhabitants are distributed. The following statement may, however, be considered as a near approximation. Ulster is the most populous of the four provinces, and that in which the linen and cotton manufacture is carried to the greatest extent, which of course very much augments the number of inhabitants. This province is succeeded by Leinster, while Connaught, on the

opposite side of the island, is the most thinly peopled. In point of comparative population, these provinces stand nearly as follows: viz.

Ulster 50—Leinster 41—Munster 36—and Connaught 26.

The county of Armagh is the most populous. This is followed by Monaghan, Down, Louth, and Londonderry, the populousness of these having the same proportion as the numbers 78, 77, 67, 66, and 50. The most thinly inhabited county is Galway, which being referred to the same scale as the preceding counties, only gives the number 18. Kerry gives 19; Donegal 22; Mayo and Clare 23; Wicklow 24; and all the rest are intermediate between these and 50. The labouring classes bear a much greater proportion to the whole population in Ireland than in England, while the minute division of land, with the low state of manufactures, (except linen) causes a much larger number to depend for subsistence upon the produce of agriculture. Hence, there are not in Ireland such dense masses of population, collected into particular towns and districts, as in England, the inhabitants being dispersed over the cultivated parts of the country.

CHAPTER II.

Outlines—General Surface—Mountains—Rivers—Canals—Lakes—Climate and Seasons—Soil—Cultivation and Productions.

SURROUNDED by the sea, and greatly indented with bays, creeks, and harbours, Ireland possesses a vast extent of coast in proportion to its surface. The numerous inlets and promontories by which its **OUTLINES** are rendered so irregular, not only increase the local beauty of the scenery, but render Ireland superior to most other countries in Europe in point of commercial advantages. The north and east sides of the island are the most entire; and when compared with the western coast, exhibit a striking difference between a shore sheltered by the near approach of opposite land, and one exposed to the unbroken force of an impetuous ocean. The south and west of Ireland present more safe and commodious havens, perhaps, than the same extent of coast in any other part of the globe. The spacious bays of Donegal, Sligo, Clew, Galway, and Dingle, are all of this kind. The chief openings on the south, are the bays of Bantry and Roaring, with the harbours of Cork and Waterford. Belfast, Carlingford, Dundalk, and Dublin bays are all on the east; but are inferior to the others in extent and convenience. Loughs Foyle and Swilly encroach on the northern counties, and afford inlets for vessels trading to that part of Ireland. Commencing an ideal voyage at Dublin, and coasting round the island with the shore on the right, the principal promontories, in the order of their occurrence, are Carnsore point, Mizen head, Crow head, Dunorling head, Urris head, Tillen head, Fairland point, Malin head, Torr point, and Howth head.

The **GENERAL SURFACE** of Ireland bears a greater resemblance to that of the southern parts of England, in the variety of its elevations, than it does to either Wales or Scotland. Though it merits the appellation rather of a flat than an alpine region, it is sufficiently interspersed with hill and dale to impart much diversified beauty to its landscapes. The vicinity of Fair head, and the coast of Antrim, mostly consist of high land, and the mountains of Mourne, which intersect the county of Down, are considerably elevated; but south of these, and of some others in Armagh, the surface sinks into an extensive plain, stretching over the counties of Lowth, Meath, Dublin, Kildare, and Carlow. An elevated tract then spreads from north to south, and afterwards inclines to the west, dividing the basin of the Shannon from the declivity which faces the east. The waters that flow in these different directions chiefly originate in this upland district. Wicklow is an assemblage of mountains, which are connected with the ridge that divides Wexford from that county and Carlow. The eastern coast of Donegal likewise presents a mountainous appearance, and a chain runs inland from Tillen head. Though some of the detached mountains of Ireland aspire to a great height, yet the want of continuity in the groups and short ranges, as well as their general elevation, do not entitle it to the character of a mountainous country. The most extensive plain stretches across the middle of the island, from the vicinity of Dublin to Galway bay. The extremities are higher than the central parts, and the western coast than the interior. The elevations of Ireland are generally easy of ascent, and many of them admit of cultivation to their very summits. A few only are

precipitous. The western peninsula of Connaught, is one of the most mountainous districts in the island. In the county of Mayo, the solitary hill, called Mount Nephin, rises, according to Mr. *Kirwan*, to the height of 2630 feet above the level of the sea; while Croagh Patrick, on the south-east of Clew bay, and in the same county, attains the height of 2660 feet. Mangerton, one of the peaks of the chain, south-west of the lake of Killarney, is 2693 feet high; and Donaw, the highest summit of Mourne, is 2809 feet above the level of the sea. The highest point in the ridge called M'Gilleycuddy's Reeks, in the county of Kerry, is supposed to exceed 3000 feet.

The surface of Ireland inclines in every direction towards the sea, as shown by the numerous rivers which issue from all parts of the coast. This circumstance, in connexion with the quantity of rain that frequently falls, increases the number of streams, and augments the fertility of its soil, but diminishes the length and magnitude of its rivers. Hence, though the Irish rivers are numerous, few of them are sufficiently important to deserve description in a work of this general nature. The noble Shannon, however, the prince of Irish streams, is a striking exception, being one of the chief rivers in the British dominions. The Barrow, the Bann, the Boyne, the Blackwater, the Bandon, the Foyle, the Liffy, and the Suir, also add to the beauty and the commercial convenience of the country.

The SHANNON originates in a small lake, a few miles south of Sligo, and soon afterwards feeds the waters of Lough Allen. Flowing still towards the south, it expands into the long and narrow lough Esk; and subsequently into the still more extensive lough Ree. Increased by numerous tributary streams, it now becomes a noble river, and assuming a south-west direction, flows through the beautifully winding lough Derg, passes the city of Limerick, expands into a magnificent estuary, and falls into the Atlantic Ocean, after having separated the province of Leinster and part of Munster from Connaught, and completed a course of 170 miles, through one of the finest vales in Ireland. The western bank of the Shannon is formed by the counties of Roscommon, Clare, and Galway; and the eastern boundary by those of Leitrim, Longford, King's County, Meath, Tipperary, Limerick, and Kerry. It is navigable for ships of 500 tons burden as far as Limerick, but the navigation is interrupted a little above that city by a waterfall beyond which barges only are used.

The BARROW, which rises in King's County, about 40 miles west of Dublin, flows towards the south, and is joined by the *Nore*, from the west, before it reaches Ross. Below that town, it receives the *Suir*, from the same quarter. Their united waters then form Waterford haven, and mingle with those of the Atlantic, about 100 miles from their source. This river is navigable for large vessels, as far as New Ross, and for barges to Carlow and Athy; whence the communication is continued to Dublin by a canal.

The BANN descends from the north side of the mountains of Mourne, and flows north-west to lough Neagh. Issuing again from the northern extremity of that lake, it passes Coleraine, and enters the sea on the east of lough Foyle. The Bann, with lough Neagh, and the canal of Newry, which joins it to the Irish sea, insulate the north-east part of Ireland. The length of this river, including the lough, is about 70 miles.

From near the source of the Barrow, the BOYNE flows towards the north-east, and being augmented by numerous streams as it passes through the county of Kildare, becomes a fine river when it enters Meath. It then pursues its course, increasing in beauty and magnitude, till it reaches Drogheda, where it falls into the Irish sea, after a course of nearly 50 miles. The Boyne admits ships to

Drogheda, and opens a much more extensive navigation for smaller vessels by its connexion with canals.

The **BLACKWATER** has its source near Castle Island, in the county of Kerry, and flows eastward for about 50 miles, till it reaches Cappoquin, where it bends to the south, and enters the Atlantic at Youghall bay. It admits ships from thence to Cappoquin.

The **LEE** and the **BANDON** intersect the county of Cork, from west to east. The former falls into Cork harbour, and the latter into Kinsale bay. Flowing nearly in the same direction as the Blackwater, the **SUIR** also unites its waters with those of the Barrow. The river **FOYLE** enters the northern ocean by the lough of that name, and gives access for vessels to Derry and Lifford. The **LIFFY** is a stream of little commercial importance, and deserves notice chiefly as flowing through the capital.

Few countries possess greater facilities for internal communication, from the situation of their rivers and lakes, than Ireland. When these natural advantages are duly improved, by an extensive and judicious system of **CANALS**, almost every place will be within a few miles of water carriage. But, as such a system must always be proportionate to the progress of industry and internal commerce, Ireland is yet much behind England in this respect. It is not, however, destitute of canal navigation, for the improvement of which £500,000 was granted at the Union. The following are the principal canals.

The **GRAND CANAL** extends from Dublin to Shannon harbour, and another branch stretches to Athy, where it joins the Barrow. It thus connects the capital with the south-east and south-west parts of the country. Dublin is supplied with corn and turf by means of this canal; but it is otherwise more used for passage-boats than for the conveyance of merchandize.

The **ROYAL CANAL** commences in two branches, the one at Glassmanogne in the county of Dublin, and the other at the Liffy, near the Lots, in the immediate vicinity of Dublin. These afterwards unite and extend beyond Mullingar. It is chiefly employed for the same purpose as the grand canal.

NEWRY CANAL stretches through the southern part of the county of Down, and is one of the most useful in Ireland. It commences at Carlingford bay, extends to Newry water, and along the upper Bann to lough Neagh, with branches diverging to the Tyrone collieries. It admits vessels of 50 or 60 tons burden along the greater part of its course.

Ireland is adorned with numerous **LAKES**, some of which are extensive and beautiful; but the native term **Lough** (like the **Loch** of Scotland,) is indiscriminately applied to arms of the sea as well as lakes.

LOUGH ERNE is the largest lake in Ireland, and is situated in the county of Fermanagh. It consists properly of two distinct lakes connected by a narrow channel, one of which is nearly 20, and the other about 15 miles long. The greatest breadth is 12 miles, and the medium about 10. Both contain numerous islands, which, according to some writers, exceed 300. The utility of this lake, however, is small, and hence its size and local beauty alone entitle it to attention.

LOUGH NEAGH, which is situated in the eastern part of Ulster, between the counties of Tyrone and Antrim, is particularly adapted for yielding the advantages of a safe and easy navigation. The county of Londonderry borders on the north-west of this lake, and that of Down just touches the opposite angle. Its length is nearly 15 miles, and its breadth, seven; including an area of 58,200 acres. The waters of Lough Neagh have a slight petrifying quality, and are supplied by several large rivers, though there is but one outlet by which they are discharged into the sea. Only two small islands diversify its surface, and its shores are chiefly flat

and uninteresting, except in a few places, where they become bold and abrupt ; but the great deficiency of wood deprives them of that picturesque effect which renders this kind of scenery so pleasing.

LOUGH CORRIB, in the county of Galway, is the next in size, being about 20 miles in length, but not more than four at a medial breadth. In some places, however, it is nearly 10 miles broad.

The lakes of **KILLARNEY**, situated amid the mountains of Kerry, are the most celebrated for their variegated, romantic, and delightful scenery, in which they not only excel all others in Ireland, but rival any in Europe. These three lakes are connected together by narrow channels, and are generally styled the lower, the middle, and the upper. The central expanse is often called *Mucross lake*, from Mucross Abbey, which stood on its margin. They are small in comparison with those already described. Their respective areas, in the order above-mentioned, are 3000, 640, and 720 acres. The beauties of the first are of a soft and pleasing kind, one side being bounded by a majestic range of mountains, while the other presents the prospect of a rich and cultivated country. The beauties of the middle lake comprise an interesting union of the grand and the majestic ; and those of the upper maintain the gradation, by an intermixture of the awfully sublime. The shores are fringed with the *arbutus*, or strawberry-tree, which is not indigenous to any other part of the British dominions. The most animated description must fail in conveying a just idea of this enchanting scenery, which the poet's pen, and the painter's pencil, have in vain endeavoured to portray. " These glassy lakes, overlooked by stupendous mountains, bordered with pendant woods, most delightfully variegated, ornamented with the most romantic verdant islands, resounding on all sides with waterfalls, and the reverberation of a vast variety of echoes, combine an assemblage of beauty perhaps unparalleled,—at least, far surpassing all power of language to describe." Sir Richard Colt Hoare also observes, " The collected beauties of this favoured spot are so great, so varied, and so superior to any thing I have yet seen, either in Italy, Switzerland, or England, that they can neither be delineated nor described : to be *felt* they must be *seen*."

Several other lakes are spread over various parts of Ireland, among which those of Derg, Conn, Mask, Ree, and Allen, deserve enumeration.

LOUGH DERG, between the counties of Clare and Tipperary, was remarkable, during the reign of superstition, for containing St. Patrick's Purgatory. *Lough Ree*, near the centre of the island, and *Lough Allen*, are both noted lakes. *Loughs Conn* and *Mask*, in the western part of Connaught, are large, but have been little visited or described.

The **CLIMATE** of Ireland is distinguished from that of most regions situated under the same degree of latitude, by its mildness and moisture. From these causes the surface of the country is perpetually adorned with a freshness and verdure, which have suggested the appellation of *Green Erin*, and which afford a delightful contrast to those who arrive on its shores, either from the bleak regions of the north, or the sun-parched countries of the south. Situated in the same latitude as England, it is more exposed to the influence of the Atlantic Ocean, that rolls its vast waves between it and the shores of the new world, and from which the winds blow for nearly three-fourths of the year. The south and south-west winds prevail in winter, and that season is also most subject to heavy falls of rain. In summer and autumn, the wind is generally west ; while in the spring it often blows from the north and the east. The same causes, however, which impart mildness and moisture to the climate of Ireland, render the weather more variable, and the seasons later, than in England. The difference of annual temperature, between the two countries, does not arise from the greater heat of summer, but

from the less degree of cold that pervades the winter and spring. In the south and west of Ireland the snow never lies, nor does severe frost continue for any length of time. In the eastern and northern parts, the atmosphere is dryer and colder than on the opposite sides, but this arises more from elevation, and other local causes, than from difference in geographical situation. The mean annual temperature of the northern regions has been estimated at 48° ; that of the middle at 50° ; and of the south at 52° . The medium heat of the sea-coast, as observed between latitude $55^{\circ} 12'$ and $51^{\circ} 54'$, has been stated at $49^{\circ} 3'$; and that of places in the interior, elevated from 50 to 200 feet above the surface of the sea, at $47^{\circ} 5'$.

The mean annual temperature of the three following places, situated near the extremities of the island, and the middle of its eastern coast, have been thus stated; viz.

At Londonderry it varies from	47°6' to 49°
At Dublin, from	50 to 52
At Cork, from	2°55 to 53°5

The comparative temperatures of the different seasons of the year, between London and Dublin, are also comprised in the following brief abstract.

	In London.	In Dublin.
Mean temperature of Winter	1°00	1°45
Spring	3°00	2°14
Summer	5°00	4°68
Autumn	3°00	3°80

From this statement, it appears that it is neither so cold in winter, nor so warm in summer, in Dublin as in London; and that the spring is much colder, and the autumn much warmer, in the former city than in the latter. According to Dr. Rutty's observations, the mean annual temperature at Dublin, for five years ending with 1800, was $50^{\circ} 15'$; the greatest heat of that period $81^{\circ} 5'$, and the least $14^{\circ} 5'$. At Kilkenny, the thermometer seldom falls below the freezing point, or rises to 80° in the shade. The average summer heat is from 70° to 75° . At Limerick, the greatest height of the thermometer, in the shade, has been stated at 72° . The greatest depression in summer is 58° ; in winter, it is under 55° ; but never below 28° .

Closely connected with the state of the thermometer is that of the *barometer*; but a brief statement of the maximum and minimum of this instrument at a few places must suffice

	Greatest.	Least.	Mean height.
Dublin from 1792 to 1804 inclusive	30°94	28°68	30°35 inches
Belfast 1796 to 1809	31°00	28°00	29°92
Londonderry 1795 to 1802	30°84	28°37	29°64
Limerick 1802 to 1811	30°50	28°00	29°50
Cork for the space of 13 years	30°40	28°20	

One of the most distinguishing characteristics of the Irish climate is its *moisture*, and the consequent clouded state of the atmosphere. The continual supply of vapours from the Atlantic, not only causes the number of days on which either snow or rain falls, to be more numerous in Ireland than in England, but also its annual quantity of rain to be greater. From a register kept at Dublin, from 1792 to 1804, it appears that the number of days on which either snow or rain fell, in the course of the year, varied from 126 to 288; and the annual quantity from about 20 to nearly 31 inches. At Londonderry, situated near the northern shore, the quantity of rain varies from about 25·7 to 34·8 inches; the mean quantity being 31·1. At Cork, near the opposite extremity of the island, the variation, as

well as the annual quantity, is still greater; seldom falling below 30 and some times exceeding 50 inches. The medium quantity, as deduced from 11 years' observation, is about 38·3 inches. The quantity is still greater in some of the western districts of the island.

The following conclusions have been deduced from a long series of observations on the prevailing winds in Ireland; and as they bring the results within a narrow compass, we shall introduce them, viz.

1st. "The south-west and west winds are the two grand trade winds, or reigning winds of Ireland, blowing most in summer, autumn, and winter, and least in spring; yet even in spring they prevail sufficiently to temper the pernicious blasts from the east and the north.

2nd. "The east winds are almost equal in spring and summer, and nearly double to what they are in autumn and winter.

3rd. "The north-east wind blows most in spring, and double what it does in autumn and winter.

4th. "The north-west wind blows most in spring and least in winter.

5th. "All registers agree that the south-east and north-west winds are nearly equal, and come next in number to the south-west and west."

Storms are more prevalent in autumn and winter, than in spring and summer, and generally proceed from the south-west. The proportion between the former seasons and the latter has been estimated at five to one. The Rev. Dr. *Hamilton*, in his "*Memoirs on the Climate of Ireland*," published in the sixth volume of the *Irish Transactions*, describes several pernicious effects produced by these storms, which frequently drift the sand from the Atlantic, over the adjoining country, by which many places that were well inhabited less than a century ago, are now merely barren, sandy deserts.

Ireland is composed of a vast rock, emerging from the ocean. Stone rises almost every where to the surface, or may be obtained a little below it. The *SOIL*, however, possesses a much greater uniformity than in most other districts of equal extent. There is not any stiff clay, such as abounds in many parts of Oxfordshire, Essex, Suffolk, and Surrey; nor any of that sandy soil, except in a few places near the shore, which is found in some districts of Surrey and Suffolk. Chalk is unknown, and gravelly soils, like those that pervade parts of Middlesex and Kent, with other tracts of England, are rarely to be met with on the opposite side of St. George's Channel. The soil of Ireland, therefore, consists of various species of loam. There are but few places where these loams possess sufficient tenacity for making bricks, as they are, in general, of a much lighter species. There is, however, great fertility in Ireland, which is increased by the calcareous basis upon which the soil rests, and the lime-stone rubble that is often mixed with it. The county of Meath, with some others, Mr. Wakefield observes, "exhibit the richest loam that I ever saw turned up by a plough." Respecting Limerick and Tipperary, the same writer remarks, that there is another kind of rich land, consisting of a dark, friable, dry, sandy loam, that, if preserved from weeds, is extremely fertile, and seldom experiences a season either too wet or too dry. On the banks of the Fergus and the Shannon, the soil is of a different nature, but equally productive, though the surface often presents the appearance of a marsh. These districts are called the "*caucasses*;" the substratum is a blue silt, deposited by the waters, in which the subsoil seems to differ from the surface, only by the latter having been long exposed to the influence of the atmosphere, as this land cannot be injured by any depth of ploughing. Soil of this kind is only found on the banks of rivers, and has a great resemblance to that called "*carse land*," near the banks of the Forth and the Tay in Scotland. There is also a species of rich grazing ground in Roscommon, Galway, Clare, and some other districts, consisting of a few inches of soil upon a calcareous basis. This is almost continually

clothed with a luxuriant herbage, and the wettest season appears to make no impression upon it. One of the most remarkable divisions of soil, in Ireland, is formed by some of the rivers, especially the Barrow. Limestone is abundant, on the west of that river, but the district extending from Dublin, through the three counties of Wicklow, Wexford, and Waterford, east of the Blackwater and the Barrow, is totally destitute of that useful fossil.

Numerous and extensive Bogs pervade many of the counties in Ireland, and form a peculiar feature in its landscape. They are not confined to the lower parts of the country, but often cover elevated districts; and, in the county of Donegal in particular, constitute a complete scenery of hill and dale. These bogs are great obstacles to travelling and agriculture, but furnish inexhaustible supplies of fuel for the neighbouring poor. In some places, nearly all the wood that is used for domestic purposes is dug from beneath their surface. Many of them possess a petrifying quality, which increases the durability of the timber that has been buried in them, and changes the skins of animals into a species of leather. The colour of the peat-earth of which they are composed, is generally red, and hence they are called *red-bogs*.

The following extract from the first *Report* of the Commissioners appointed by Parliament to inquire into the nature and extent of the several bogs in Ireland, and the practicability of draining and cultivating them, will afford a good idea of this unproductive part of the island.

“ We were enabled to consider the greater part of these bogs as forming one connected whole, and to come to the general conclusion, that a portion of Ireland, of little more than one-fourth of its entire superficial extent, and included between a line drawn from Wicklow head to Galway, and another drawn from Howth head to Sligo, comprises within it about six-sevenths of the bogs in the island, exclusive of mere mountain bogs, and bogs of less than 500 acres, in its form resembling a broad belt drawn across the centre of Ireland, with its narrowest end nearest the capital, and gradually extending in breadth as it approaches to the western ocean. This great division of the island, extending from east to west, is traversed by the Shannon from north to south, and is thus divided into two parts: of these, the division to the westward of the river contains more than double the extent of the bogs which are to be found in the division to the eastward; so that, if we suppose the whole of the bogs of Ireland (exclusive of mere mountain bogs and bogs under 500 acres) to be divided into 20 parts, we shall find about 17 of them comprised within the great division we have now described, 12 to the westward, and 5 to the eastward of the Shannon, and of the remaining three parts, about two are to the south, and one to the north of this division. Of the positive amount of their contents we have as yet no data that can enable us to speak with any precision; but we are led to believe, from various communications with our engineers, that the bogs in the eastern division of the great district above described, amount to about 260,000 English acres, which, on the proportion already mentioned, would give rather more than 1,000,000 of English acres, as the total contents of the bogs in Ireland, excluding, however, from consideration, mere mountain bogs, and also all bogs of less extent than 500 acres, of each of which description the amount is very considerable. Of the extent of the latter, some idea may be formed from a fact which we have learned from Mr. Larkin, that in the single county of Cavan, which he has surveyed, there are above 90 bogs no one of which exceeds 500 Irish acres, but which, taken collectively, contain above 11,000 Irish, which is equivalent to above 17,600 English acres, besides many smaller bogs, varying in size from 5 to 20 acres.”

The researches of these Commissioners, relative to the extent of the Irish bogs

have led to the following conclusions, which are stated in their fourth report, laid before parliament in the sessions of 1813-14, viz

	English acres.
Eastern extremity of the Bog Allen in the county of Kildare	36,430
District of the River Barrow, in Kildare	41,075
—— of the Boyne, in East and West Meath	42,370
—— of the Brusna, and King's County	44,594
—— of the Shannon, in West Meath, Longford, and King's County	34,500
—— of the Inny and Lough Ree, in Longford and West Meath	34,569
—— of Lough Gara, in Roscommon, Sligo, and Mayo	83,689
—— between Roscrea, and Killenaut, in Tipperary, Kilkenny, and Queen's County	36,025
—— to the west of Maryborough in Queen's County	14,754
—— forming the west extremity of Clare	22,340
A small district on the Barrow, in Kildare and King's County	7,459
District of Lough Corrib, in Galway and Mayo	83,724
—— in Mayo	161,962
—— surrounding Lough Neagh, and extending to the mouth of the Bann	64,855
—— Exclusive of 10,673 acres inundated by the winter level of the Lough of Iveragh, in Kerry	43,567
—— of Kenmare in the same county	14,605
—— of the Rivers Laune and Maine, in ditto	17,990
—— of the Upper Maine, in ditto	8,566
—— of Slieve, Laughar, in Cork and Kerry	32,902
—— of the Cashen, in North Kerry	31,514
—— contiguous to Lough Ree, in Longford, Leitrim, and Roscommon	26,630
—— southern extremity of the Suck, in Galway and Roscommon	76,848
—— northern extremity of ditto	52,390

Total 1,013,358

There are, besides, the three mountain districts of Wicklow, Erris, and Cunnemera, which contain, respectively, 97,000, 170,090, and 120,000 acres; and in the two districts, there are of mountain peat soil, respectively, 155,500 and 200,000 acres. The extent in Wicklow has not been ascertained. The mountain peat-soil in other parts of Ireland is supposed to amount to about 900,000 acres. Of the bogs under 500 acres, there are about 90 in the county of Cavan alone, containing 17,600 acres in all; and the commissioners suppose, that the other parts of Ireland cannot contain less than ten times as great an extent of these lesser bogs as the single county of Cavan. "From all the above data (the Commissioners observe) we can confidently pronounce, that the extent of peat-soil in Ireland exceeds 2,830,000 English acres, of which we have shown at least 1,576,000 to consist of flat red bog. The remaining 1,255,000 acres form the covering of the mountains."

AGRICULTURE is less advanced in Ireland than in England. Various local causes retard its progress, but the great increase in the exports of its produce, shows that much improvement has been made within a few years. Superior breeds of cattle and sheep have been introduced, while about one-third more land has been brought into tillage, and that tillage much better performed. The minute division of the land, however, causes much of it to remain under a very inferior system of cultivation, in which potatoes, oats, flax, and a coarse species of barley, constitute the only rotation of crops, and generally succeed each other without intermission, till the land is completely exhausted. It is then turned to rest, as it is called, that is, left for a few years to the process of nature. The cow, the pig, a few sheep or goats, and poultry, are suffered to run upon it, to increase its fertility. It is then converted into tillage again; again exhausted; and so on in succession.

The implements of husbandry, in most counties, are still of the rudest kind, and little dexterity is displayed in using them. The construction of the plough is so imperfect, in many places, that it is not only difficult to use, but the work is

badly done. One man is often obliged to follow it, to turn back the furrow, which would otherwise work into its bed, and another to press on the beam, to prevent the share from rising out of the ground by the power employed to draw it. The sliding cars, still employed for agricultural purposes, are merely a kind of basket, placed upon two shafts resting with their extremities on the ground. Those of a superior construction generally have the wheels fixed to the axle-tree, so that this turns as well as the wheels, instead of suffering them to revolve about it. All the agricultural business on the small farms is done with these cars, and there is scarcely a large farm in the country.

Wheat has not been much cultivated till of late years, and even now, oats are the most general crop, the quantity grown, in proportion to that of any other kind of grain, being nearly as ten to one. Potatoes, however, is the crop upon which the great body of the Irish people depend for actual subsistence, and, as they form a chief article of food with a large proportion of the population, a ready market is always found, and the cultivation of them consequently promoted.

The culture of turnips, clover, or any of the artificial grasses, is little known or practised. The grain in general is inferior to the same species in England; and, either from the moisture of the climate, or the imperfection of its preservation, it usually requires kiln drying.

Arable land in Ireland, however, forms but a small part of each county; the greater portion being generally employed for the dairy and grazing. The dairy husbandry is not only the most common, but the best managed of any branch of Irish rural economy. The counties of Kerry, Cork, Waterford, and parts of Kilkenny, Carlow, Meath, West Meath, Longford, and Fermanagh, with the upland tracts of Leitrim and Sligo, are chiefly occupied by dairy farms. Grazing also forms a principal branch of Irish husbandry. The most valuable and extensive grazing grounds, are in the province of Munster. These are the *caucasses*, on the banks of the Shannon and Fergus, together with parts of West Meath, Limerick, Tipperary, Queen's County, Cork, Louth, and Kildare. The counties in which sheep are most numerous, are, Galway, Clare, Roscommon, Meath, and Tipperary; but the sheep are seldom folded, or fed on turnips, in any part of the country.

It is not necessary to mention any of the indigenous *grasses* of Ireland, except the *flurin grass*, the qualities of which have within a few years been so highly extolled by Dr. Richardson. The numerous trials, however, which English agriculturists have made of it, have not led to its general adoption. Artificial grasses are so little known in Irish husbandry, that when a field is to be converted from tillage to meadow, the general practice is not to sow it with seeds, as in England, but to suffer it to clothe itself with natural herbage. Hence, as the land has generally been exhausted and left in a foul state, the quality of such produce is necessarily of an inferior kind. The fields are seldom separated by quick hedges. In the districts where stone is plentiful, walls are used for that purpose; but in others, banks of earth are the common divisions, upon which furze is often planted, and the seeds spreading over the fields, afford a strong proof of the inattention of the Irish cultivator.

The ANIMALS of Ireland differ so little from those of England, that a very brief sketch of them will be sufficient. The native Irish horse is a small hardy animal, very sure footed, and capable of enduring great fatigue. The present system of farming, and the very minute division of the land, in most parts of Ireland, are not only inimical to the introduction of the larger kind of English horses, but even to the improvement of the native breed. From their being ill fed and early worked, they do not arrive at the size they would otherwise attain;

while the imperfection of agricultural implements increases their labour so as to keep them miserably poor.

The native Irish CATTLE, which are black, with long legs and white faces, are now nearly extinct, or so mixed with other breeds, as to be entirely changed from what they originally were. The mixture of the long-horned kind with the native breed is the most generally diffused over the country. The Devon breed has been introduced into some parts of the south, and the Scotch into the north. The Suffolk, Hereford, and other breeds, have also found their way into various parts of the country. They are principally confined, however, to the domains of gentlemen, and are not sufficiently numerous to be of much service in improving the general stock of the country.

Flocks of sheep are not common in Ireland. Those of the indigenous stock are small, and resemble what are bred on the mountains of Wales. Their wool is so coarse as to be of little value; but, like the native cattle, they have now been so mixed with others as to lose their original character. A few, however, are yet found in some of the mountainous parts of the country. Sheep are chiefly kept, for the sake of their wool, and that merely for the farmer's own use. Hence, little attention is paid to the breed. They have been most attended to in the west and south-west counties, where some good flocks of the long-woolled kind are met with. The mountains of Wicklow exhibit some of the short-woolled breed, which are found only in that county, though many parts of the upland tracts and drier districts, are well adapted for sheep pastures, and capable of producing wool of the finest quality.

Mr. Wakefield observes, that "flocks of goats are kept in many of the mountainous districts, and by all the cotters throughout the whole country, but they are generally tethered together in every manner that cruelty can devise, to prevent them from straying into the grounds of their neighbours. They produce some milk, but the kids, which are not considered as a rarity, seldom bring the same price as lambs."

Pigs are so numerous in all parts of Ireland, that scarcely a cottage is to be found without one. They are indeed the inmates of every Irish cabin, and are as much domesticated as the dog. The Irish breed is very tall, long, and narrow loined; but some of the English breeds, particularly the Leicestershire, have been introduced. Mr. Wakefield observes, "they are kept to a considerable age, sometimes to that of two years, and are seldom fed upon corn. Potatoes is the common fare of the hog as well as of the children, throughout Ireland; but this animal rarely comes to the table of the proprietor, as it does in England, because when fatted, it is sold for the purpose of paying the rent, and is exported, either as salt-pork, hams, or bacon." The breeding of pigs is confined to the dairy-men, who sell them to those by whom they are subsequently fed.

All kinds of domestic fowls are numerous in Ireland, and the turkey thrives well. Rabbit-warrens are seldom seen; and hares are chiefly confined to parks and domains. Game of all kinds, indeed, is scarce, except woodcocks and snipes, which visit Ireland in great numbers. Many parts of the country are highly favourable for bees, and the honey produced in the dry hills of Down and some other counties is much esteemed; but the attention to this useful insect has declined of late years.

The Irish greyhound is much celebrated for its size and vigour, and is the most majestic as well as the most beautiful of the canine species. It, however, is very rare in the present day. A species of wolf-dog has also been deemed peculiar to this country. In size it exceeds the mastiff, but its shape has more resemblance to that of the greyhound. Two species of the falcon tribe are said to be found in

Ireland, which are rarely, if at all met with in England ; these are the goshawk and gyr-falcon. The white crow is also an inhabitant of the northern districts, as well as of the Orkney and Shetland isles. The other birds, both wild and domestic, are nearly the same in both countries ; and it is remarkable that no poisonous reptile is to be found in this island. Fish is more plentiful on the Irish than on the English coast, and in general of a larger and better kind.

Ireland yields MINERALS and FOSSILS of various sorts, which a more enterprising spirit, aided by greater capital, might render subservient to the promotion of national industry and individual opulence. Though unsuccessful attempts have been made to work some of these mineral treasures, it has been asserted, that riches of this kind still lie hid in other places, from which, at some future period, they will doubtless be drawn.

NATIVE GOLD has been found in the mountains of Wicklow, and sometimes in pieces of considerable value. This circumstance induced government, about 25 years ago, to prosecute the search for this metal ; but the sanguine expectations which had been previously entertained, were not realized, as the value of the ore was insufficient to defray the expense of obtaining it.

SILVER has likewise been found in the lead mines, and some rich specimens of ore were met with, particularly in the county of Wexford ; but little is now procured.

COPPER is more abundant than either gold or silver, and has been found at Ross Island, in the lake of Killarney ; at Mucross ; and in some parts of the counties of Dublin, Cork, Clare, Meath, Waterford, and Wicklow. But at present Ireland yields very little of this metal.

Several counties of Ireland produce LEAD, particularly Wexford, Wicklow, Dublin, and Donegal. Only two or three mines, however, of this metal are at present worked, and they are not very abundant in their supply.

IRON abounds in many places, but the working of it is greatly limited by the scarcity of timber and fuel.

Cobalt, Manganese, and some other metals, have been found in Ireland, with small quantities of tin in the county of Wicklow ; but none of these are among the actual exports of the country.

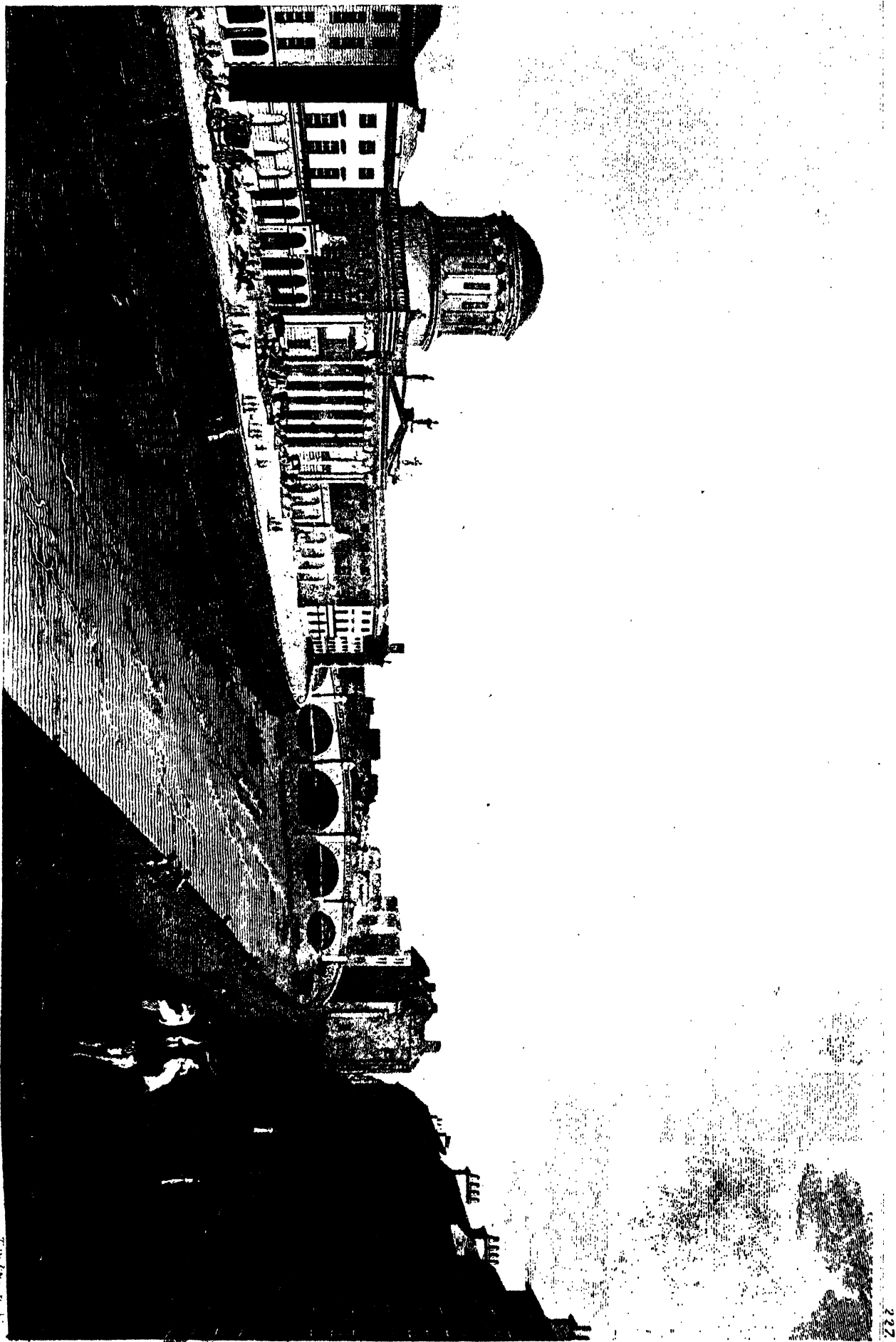
COAL is found in various counties, and mines are now worked at Bally-castle, in Antrim, and near Dungannon, in Tyrone. The province of Leinster is supposed to contain the greatest abundance, and collieries have been opened at Castle Coomer, at Doonane, in Queen's County, and at Kilkenny. The Coomer colliery is the largest in the kingdom. It employs about 600 men, and yields nearly 40,000 tons of coal annually. Coal has also been found in the province of Connaught, where pits are worked in Leitrim. Cork is the only county in the province of Munster where it has been obtained. The Irish coal in general is inferior to the English ; but that raised at Kilkenny, and Castle Coomer, is among the purest that has been found in any part of the globe.

Ireland contains several beautiful species of MARBLE, quarries of which are worked in various counties, particularly in Kilkenny, Armagh, and Cork. Some of it is nearly equal to that of Greece or Italy. About fifty tons of a fine black species are annually exported from the quarry in the neighbourhood of Kilkenny.

The whole island is nearly one immense rock or bed of granite, which rises above the surface in some of the highest primitive mountains. Various other kinds of stone and slate, well adapted for domestic purposes, are also plentiful in many counties, notwithstanding which the lower classes almost invariably live in mud hovels of the most wretched description. The county of Down is distinguished for its quarries of fine free-stone, and the same kind, but of an inferior quality, is

found in the county of Mayo. Lime-stone of various qualities and colours abounds, particularly white, blue, reddish, and black. The black yields the best lime, and is, with that made from the blue stone, generally preferred for the purposes of architecture. Lime-stone indeed is so common in Ireland, that Wexford, Wicklow, Tyrone, and Antrim, are the only counties which are destitute of it. In addition to these useful fossils, several others of an ornamental kind are produced. Some good specimens of transparent alabaster have been worked into tables and vases. Calcareous spar; fine compact jasper, chiefly of a deep red colour; regular crystals, called Kerry-stones; fine amethysts; and pieces of white cornelian, have all been met with in this island. Different kinds of clay, used in the potteries, and in pipe and brick-making, are also obtained. "A clay, remarkable for being as white as snow, is found, in a stratum nearly six feet thick, about a mile west from Cloyne, in the county of Cork. It is used in white-washing the walls of houses. If only diluted with water it produces a whiteness superior to that produced by any kind of lime, and will stand the weather for several seasons. It is of a saponaceous nature, and takes grease out of boards. If mixed with oil, it forms putty for glaziers as good as that made with Spanish white." Earth, possessing nearly the same properties as the Fuller's earth of England, is likewise found, especially in the county of Wexford, where it is sometimes used as a manure.

MINERAL SPRINGS exist in several counties of Ireland. They are chiefly of the Chalybeate kind, and afford presumptive proof of the abundance of iron, which lies hidden beneath the soil. The mineral waters, however, that are principally resorted to by invalids, are *Lucan*, near Dublin; *Swadlingbar*, in the county of Cavan; *Johnstown*, near Urlingford, in the county of Kilkenny, and *Mallow*, in the county of Cork. The spring at this last place is contiguous to the town, and consists of moderately-tepid water, bursting from a lime-stone rock. Its medicinal qualities attract a numerous assemblage of fashionable visitors during the season. This water resembles that of the Bristol wells, and was discovered in 1724.



CHAPTER III.

Principal Cities, Towns, and Buildings.

DUBLIN, the metropolis of Ireland, is situated at the bottom of an extensive and beautiful bay, about the middle of the eastern coast. Its appearance from the sea is grand and imposing. The country on the north and west swells gently into eminences, and that on the south presents a distant view of the Wicklow mountains. Dublin contains about 190,000 inhabitants, and covers a space, including the river Liffy, by which it is intersected, of more than 1260 English acres. It is the second city in the British dominions, both in extent and population; and is generally reckoned the seventh in Europe. Like most other places that aspire to antiquity of origin, the density of its population is much greater in the old, than in the new, parts of the city. "Our ancestors, in times of turbulence and confusion, more anxious for security, than studious of convenience and elegance, crowded their habitations together, so as not to occupy a space too large for the purposes of defence. As domestic tranquillity became better secured, they gradually extended their quarters; persons of wealth and consequence abandoned their former residences to the poorer classes of citizens, built more airy houses in more spacious streets, and gradually refined into that state of elegance which now prevails. Hence it happens, that in the ancient parts of most cities, the population is dense in proportion both to the number of houses and the space they occupy; while in the more modern parts, the train of servants, ever attendant on opulence and luxury, gives a population, great indeed in proportion to the number of houses, but inconsiderable, if we regard the area in extensive back-grounds and spacious streets." This is precisely the case with Dublin.

The situation of Dublin, being within a short distance of the sea, and its communication with the interior of the country, by means of canals, seem to distinguish it not only as the metropolis, but as the chief emporium of Ireland. The bay, however, into which the Liffy falls, though both spacious and beautiful, is neither commodious nor safe, particularly in winter, though much has lately been done towards its improvement. The city is built nearly in the form of a square, and a road is carried round it, called the Circular. This is about ten miles in length; including, in some places, gardens and fields. In others, the modern streets and buildings pass beyond it. From the point called the Ringsend, where the Liffy enters the bay, the river is embanked on each side by a noble wall of free-stone, forming a range of spacious quays, stretching through the city for nearly three miles, and uninterrupted by any building nearer the brink of the river than the breadth of a wide street. Ships of 200 tons burden ascend to Carlingford bridge, about half way from Ringsend to the upper extremity of the quay, where the tide rises about 12 feet and a half. The river, in its progress through the city, is crossed by six stone bridges, besides an iron one for foot passengers. Five of these are handsome modern structures.

Few cities, in proportion to their size, can boast of a greater number of magnificent and useful buildings than Dublin; but with the exception of these, and a few mansions belonging to the principal nobility, the houses are generally built of brick, and are from three to five stories high. The buildings are more in the

old part of the town are narrow and crooked, but in the modern, they are uniform and spacious. Many of them are 60 or 80, and some 90, feet wide. Sackville street is about 700 yards long, and 170 feet broad. In addition to the public edifices, which give the town an impressive character, the numerous villas and villages, which spread over the surrounding country, and are displayed by the declivity of the ground towards the bay; the singular beauty of the bay itself, which has frequently been compared to that of Naples; the rampart of mountains behind, and the picturesque summits of those in the county of Wicklow, render the situation of Dublin at once striking and delightful.

The *Castle* consists principally of two squares, and is situated near the centre of the city. It is the seat of government, and contains suitable offices for the transaction of its business. This structure was completely flanked with towers in 1213, but, has since been dismantled. Near it stands the *Royal Exchange*, a handsome building of the Corinthian order, with three fronts of Portland stone. It is nearly 100 feet square, and crowned with a lofty dome. Its interior decoration corresponds with its external magnificence; but being incommodious for the transaction of business, another handsome pile has been erected for that purpose, called the *Commercial Buildings*. The *Custom House* is also a noble building, the expense of which was £255,000. Its dimensions are 375 feet by 209; and each of its four fronts has a different design. The *Parliament House*, erected in the beginning of the reign of George II., is a fine specimen of architecture, and the portico, of the Ionic order, is particularly elegant. This superb structure, which covers an acre and a half of ground, has, since the Union, been converted into the national bank. *Trinity College* has a handsome Corinthian front of Portland stone, 300 feet in length. The *Four Courts* is one of the most extensive, as well as one of the finest, buildings in Dublin. The *Stamp Office*, the *Post Office*, the *Linen Hall*, with the buildings belonging to the Society of King's Inn, the Barracks, and some others, are elegant specimens of architecture, and increase the general effect produced by the external appearance of this city on the mind of a stranger.

Dublin contains 19 parishes, with two cathedrals and 19 parish churches, besides several chapels belonging to the establishment. In addition to these, there are more than 20 Roman Catholic chapels, and nearly as many places of worship belonging to the different denominations of dissenters. St. Patrick's cathedral, a Gothic edifice, situated in the worst part of the city, is in a dilapidated state. Christ church, the other ancient cathedral of Dublin, is a venerable pile, and contains some curious monuments. St. George's church is an elegant modern building, and the front and steeple of St. Werburgh's church are much admired for elegance, lightness, and architectural symmetry. The other churches do not present anything remarkable; but some of the Roman Catholic chapels are handsome buildings.

Dublin also abounds in charitable institutions. Several of them exhibit splendid edifices, and some are well endowed, while others are supported by voluntary contribution, in a manner fully correspondent with the liberality of the Irish character.

Many of the mansions belonging to the nobility, who before the union resided, part of the year at least, in Dublin, have now been converted into Hotels for the public convenience. Hence there are few cities which surpass Dublin, in point of accommodation for travellers. About two-fifths of the population consist of opulent and independent people, and of those connected with the various departments of government, law, and justice, or who are either practising or preparing for some of the learned professions. The remainder are engaged in the various occupations requisite for the support of a great city, and the domestic commerce carried on

with the interior of the country. The markets are well supplied with all kinds of provisions; and they have fish in greater perfection than any other capital in Europe.

Cork is the second city in Ireland. Situated on the river Lee, by which it is nearly surrounded, and at the top of a large bay about the middle of the southern coast, it possesses a more extensive commerce than any other town in the island. It is supposed to have been founded by the Danes, in the sixth century. It now contains a population of nearly 100,000 persons, many of whom are engaged in commercial transactions, or in the manufacture of coarse woollen cloth, sail-cloth, leather, paper, glass, glue, and some other articles. Ships come up to a commodious quay, close to the town. Its stately cathedral was built from the foundation between 1725 and 1735, and the expense defrayed by a duty on coals. Cork also contains several handsome parish churches, an elegant exchange, with a new and beautiful Custom-House, a Town Hall, Hospitals, and various other public buildings. The chief export of this commercial city is salt provisions; and during the slaughtering season, which is from September to the end of January, there are frequently 100,000 cattle killed. Its other exports are tallow, hides, pork, butter, wool, linen and woollen yarn, worsted and linen cloth. The harbour, or cove of Cork, about seven miles below the town, is deep and spacious, capable of containing the largest vessels and the most numerous fleet. Its entrance is easy, and the anchorage secure from currents and storms.

The next city in rank and importance is LIMERICK, the capital of the county of that name. It is situated on the south bank of the Shannon, near the eastern termination of its estuary. Limerick is nearly three miles in circuit, and contains about 5000 houses and 40,000 inhabitants. The central situation of this city, in the southern part of the island, and to which the wide estuary of the Shannon gives access from the sea, is highly favourable as a commercial depôt; and it is consequently one of the most flourishing towns in Ireland. It has a large share in the general commerce of the country, as well as in the export of native products, pork, beef, bacon, and butter; but its principal trade is in grain, of which it exports a greater quantity than any other Irish port. Nor is the industry of its inhabitants confined to commercial enterprise alone, the linen, woollen, and paper manufactures being in a most prosperous state.

There are three bridges over the Shannon, one of which has 14 arches. Limerick, like most other seats of commerce and manufactures, contains several handsome public buildings.

WATERFORD, situated on the right bank of the river Suir, and near the eastern extremity of the province of Munster, is a populous and commercial city, supposed to be of Danish origin. It stands a few miles from the sea, but vessels of large burden come up to the quay, which is nearly an English mile long, and the estuary of the river opposite the town is about a mile broad. The situation, which is in a fertile part of the country, causes Waterford to have a good trade in the export of beef, butter, pork, corn, and linen. Many of its ships are also engaged in the Newfoundland fishery, besides those employed in its trade with America and Europe, particularly with Russia, Norway, and Sweden. Packets sail regularly from this city to Milford Haven, in Wales. Its chief imports are sugar, coffee, cotton, and other East and West Indian products. There are also glass-works, sugar-refineries, distilleries, salt works, iron-founderies, and a manufactory for anchors. The streets in many parts of the old town are narrow and dirty; but those that have lately been added embrace all the modern improvements. The population is estimated at 35,000.

BELFAST is a port of great commercial interest, situated at the bottom of a

deep bay or lough, on the eastern coast of Antrim, and nearly in the centre of the linen manufacture. It is the chief place for exporting that article, and may be considered almost as a Scotch colony. Belfast has manufactures of linen, cotton, cambric, and sail-cloth; besides those of sugar, glass, earthenware, and vitriol. The port is connected with the interior of the northern part of the country by a navigable canal, and Lough Neagh. The increase of trade and population in Belfast has been very rapid, and the town is in consequence well built. The houses are mostly of brick. The streets are broad, straight, and well paved and lighted. There are two bridges over the river; and among other public buildings are the two episcopal churches, several chapels belonging to the Roman Catholics and Dissenters, and spacious edifices appropriated to commercial purposes. Nor must it be forgotten that Belfast contains many institutions for benevolent objects, as well as one devoted to the diffusion of literature and taste. The population is now supposed to be about 30,000; more than 2000 of whom are employed in the cotton trade alone. About 50 ships belong to this port, the united burden of which exceeds 8330 tons, while the sailors by whom they are navigated amount to 7200. Belfast, is therefore, one of the most important places in Ireland.

KILKENNY, the provincial capital of that county, is situated on the banks of the Nore, and is one of the neatest towns in Ireland. The river divides it into two parts, called the Irish and English towns, the former being on the eastern and the latter on the western margin. These are united by two bridges, and the river is navigable to within a few miles of the city. Many of the houses, especially on the west side of the river, are decorated with black and white marble, which is obtained from the quarries in the vicinity. Mills have been erected on the river for polishing the marble before it is exported to other places. Kilkenny was once a Bishop's See, and its small cathedral is a fine old Gothic structure, which stands on a gentle eminence, and commands a prospect of the city, the river, and the surrounding country. The population is between 17,000 and 18,000. There is a college, originally founded by James, Duke of Ormond, in 1682; but the present building was erected at an expense of £5000, which was granted by Parliament, in 1784. The number of students is generally about 70. The trade of the town is chiefly in such articles as are necessary for the support of its own population, and the principal manufactures are those of starch, woollen cloths, and blankets of extraordinary size and fineness. Ormond Castle, standing on the banks of the river, near Kilkenny, is a venerable and stately mansion.

ARMAGH, the capital of that county, and the chief town in the See of the Archbishop of that name, is pleasantly situated on a hill, surrounded by a picturesque and cultivated country. It was the ancient metropolis of all Ireland; and, during the middle ages, was a large and flourishing city, celebrated for its college, which frequently contained several thousand students. The ravages of fire and the devastations of war had reduced it to an insignificant place, till lately, when it has been restored to much of its former fame, by the munificence of its primate. The large Gothic cathedral has been repaired, and the town renovated. An observatory, a library, palace, and chapel, have also been built, as well as an elegant sessions-house, where the assizes are held. Armagh has a large weekly linen market, at which about 1500 unbleached pieces are generally sold. The present population of this city is about 7000.

In describing a few of the other towns, it will be of little moment in what order they are taken. The remainder of the sea-ports, however, shall be first briefly noticed.

GALWAY is a flourishing commercial town, situated on a fine bay of that name, on the west coast, and nearly in the same latitude with Dublin. It was originally

a walled town, irregularly flanked with towers and bastions, and consisted chiefly of square houses, each having a small court in the centre; but most of those have now been replaced by others of a more convenient structure. Galway stands on the river that connects Lough Corrib with the sea. The harbour is safe and commodious, but so distant from the town that lighters are employed in conveying the goods from the ships to the warehouses. The principal manufactures are coarse cloths and linens. Great quantities of kelp are also burnt in the bay, and many vessels are engaged both in fisheries and foreign commerce. The town contains a large Collegiate Church of Gothic architecture, a County Gaol, which is a massy pile of building, and some other public edifices. The population is about 15,000 persons.

DROGHEDA is also a prosperous sea-port. It is situated on the east coast, on the river Boyne, where that river separates the counties of Louth and East Meath, and being intersected by it, a part of the town is in each county. The harbour, which is formed by the estuary of the Boyne, can be entered by ships of large burden, only at high water. Drogheda has a good trade in the export of grain, and various native products, as well as in importing coals and other articles, which are sent up the river, and distributed in the interior. The population is estimated at 15,000; and the distance from Dublin about 23 miles.

NEWRY is a large manufacturing town, on a river, called Newry-water, which falls into Carlingford Bay. A canal joins this river with Lough Neagh, and consequently connects Newry with the northern part of the island. The town has wholly changed its appearance within the last half century, on account of its flourishing linen manufacture, and the opening of Newry canal. It has, by these means, been rapidly transformed from a collection of mud-houses, to one of the best built, and most opulent towns in the north of Ireland, with about 16,000 inhabitants. Newry has likewise a good trade in exporting native produce, and importing various foreign articles.

DUNDALK is a manufacturing and commercial town, situated on a bay of the Irish channel, a few miles south of Newry, and containing nearly an equal population. The only Cambrie manufacture in Ireland, was established here, about a century ago, by manufacturers from France, and it still flourishes. Muslins are also made here, and corn is exported. The Gaol for the county of Louth, with the Court House, and a Chartered School, are the chief public buildings.

LONDONDERRY stands in a pleasant and fertile valley, watered by the river Foyle, and near the southern extremity of Lough Foyle. It is a small city, chiefly composed of four principal streets crossing each other at right angles; but it is populous, full of manufactures, and enjoys a considerable commerce. The streets are so uneven as to render the use of carriages inconvenient. The name of this city is conspicuous in the annals of military renown, and the cathedral is noted for its elegant spire, erected upon the ancient tower, in 1782, under the auspices of the Earl of Bristol. Among the other public structures worthy of notice, is a wooden bridge of a curious construction, and 1068 feet in length. The present population, including the suburbs, is computed at 18,000 individuals.

WEXFORD is situated in the south-east part of the island, at the top of a spacious haven, but which has not sufficient water to admit large vessels to the town. This was the site of the first English colony, and is still peopled in a great measure by their descendants. It is now chiefly noted for its woollen manufactures; but the trade with England is considerable, and the population amounts to about 9000 individuals.

DUNGARVON and YOUGHALL are each situated at the head of a small bay, between Waterford and Cork, but their commercial importance is lost in that of

the last city. KINSALE, however, a few miles to the south-west of Cork, is the Plymouth of Ireland, and contains a population of between 8000 and 9000 people.

NEWPORT is a flourishing sea-port on Clew bay, on the western coast, about half way between Galway and Sligo. It is a town of good trade, both in the export of native products, and the import of articles necessary for the supply of the adjacent country. Many of its vessels are likewise engaged in the fisheries. The growth and manufacture of flax forms an extensive branch of industry in the vicinity of this town.

SLIGO, bordering on the bay of that name, lies north of Newport, and is another good sea-port on the west of Ireland, with a population of about 8000 inhabitants, and a considerable trade.

CARRICKFERGUS is a sea-port in the county of Antrim, on the north side of Belfast Lough, and the principal place where passengers land from Scotland. It was once the principal port in the north of Ireland, but a great part of its trade has now been transferred to Belfast. The town consists of two parts, called the English and Scotch quarters, from the people by whom they are chiefly inhabited. Its population is about 3400; and many of the inhabitants are employed in the fishery, which is extensively carried on in the bay: others are occupied in spinning and weaving cotton. Its ancient castle, which stands on a rock, boldly projecting into the sea, is a principal depôt for military stores.

In addition to these, the following towns may be enumerated, which will complete the list, and embrace all the ports of consequence in the island: viz. Baldoonore, Larne, Strangford, Donaghadee, Ross, Wicklow, Killebegs, Tralee, Ballyragham, and Ballyshannon.

The following are a few of the other inland towns. CASHIEL, in the county of Tipperary, is a city and an archiepiscopal See. It stands about three miles from the river Suir, and is a place of very little trade. Its new cathedral is a fine Grecian structure. There are also some fine ruins of an old cathedral, which are unquestionably of very ancient date. Near it is a lofty round tower, 54 feet in circumference, built of hewn stone, and of the finest workmanship. Its roof is also composed of stones, so admirably jointed as to appear nearly as smooth as china. There is a handsome market-house, a sessions-house, and a county infirmary.

CARLOW is the assize town of the county of the same name, and is pleasantly situated on the east of the Barrow, in a rich and varied country. It consists chiefly of one principal street, with two others intersecting it at right angles. Its manufacture is coarse woollen cloth, and its chief trade is in supplying the adjacent country with coals, of which there are large veins in its immediate vicinity. Carlow is connected with Dublin by the Grand Canal, and with Waterford by the river Barrow, which enables it to transmit the produce of the surrounding country to either of those cities. It contains several public buildings, with the ruins of a strong castle, supposed to have been built by king John. Its population is about 6550.

KILDARE is boldly situated on a rising ground in the county of that name, and is a small and ruinous place, but contains many vestiges of its former importance. It has suffered greatly from the wars and civil commotions which the country has experienced. There is a fine round tower, 130 feet high, with the ruins of two abbeys and a cathedral. It may now be considered as the *Newmarket* of Ireland, and is chiefly supported by the frequent horse-races which take place on the *Corragh*, an extensive common in the neighbourhood.

CHAPTER IV.

Manufactures—Fisheries—Commerce and Shipping.

IRELAND cannot vie with either England or Scotland in manufacturing industry. Her national skill, capital, and enterprise, are all inferior; and her manufactures, are therefore less varied and extensive than those of either North or South Britain. Linen is justly regarded as the staple product, and in this she excels both England and Scotland. The linen manufacture was first introduced in the reign of Charles I., when Lord Stafford was Lord Lieutenant of Ireland. For this purpose flax-seed was brought from Holland, and spinners and weavers from France and the Netherlands. In these meritorious acts for the public good, his Lordship is supposed to have spent more than £30,000 of his private fortune.

This double object of raising the raw material and manufacturing it for use, was true national policy, and is still practised in many parts of the country. Much of the Irish linen is made from native flax; and its culture is therefore an object of greater attention than in England. About 100,000 acres are annually sown with the seed of this plant; and the average produce of each, is 420 lbs. of dressed flax, which gives a return of nearly £16 10s. per acre. In the manufacture of this article, the flax was for a long time entirely spun by hand, and machinery is yet but partially employed for that purpose. This arises partly from the low price of labour in Ireland, and partly from the superior fineness of the yarn produced by the former method; for, with machinery not more than three hanks can be made from a pound of the finest flax, whereas, when spun by hand, much more may be produced. On this subject, Sir *Charles Coote*, in his "Survey of Monaghan," observes, "the quantity of yarn spun by machinery, the greater price given for it, and the better means of obtaining a market, are in favour of that mode with respect to coarse yarn: on the other hand, the low price of labour, the superior fineness of the wrought material, and the expense of machinery, with its wear and tear, are very great drawbacks: yet it may be estimated, that the balance in favour of machinery is supposed to be about one halfpenny per hank." In some parts of the country the manufacture is confined to preparing the yarn, when it is sold at regular markets to the weavers of other parts, who convert it into webs, and again dispose of it to the bleachers, who prepare it for the final market. In many instances, however, the flax is grown, prepared, spun, and wrought by the same person and his family.

The linen manufacture flourishes most in Ulster, but is diffused more or less over every county, except those of Wexford and Wicklow, where it is little, if at all, carried on. The different branches, however, are confined to particular places; as the narrow and coarse web to one; the fine and broad to another; and the cambrics, lawns, and diapers to a third. Most of the bleaching grounds are in the counties of Fermanagh, Sligo, Londonderry, and Down. It is not easy to ascertain either the total quantity manufactured, or the number of persons employed. The exports will be stated under the head of Commerce.

The Cotton manufacture has been recently introduced into Ireland, and has

rapidly increased in some parts. The first mill for spinning cotton twist, impelled by water, was erected in 1784, and in 1800, it appears from the statement laid before Parliament, that the cotton manufacture, established in Belfast and Lisburn, and within a circuit of ten miles round, had then so much increased, as to give employment to about 27,000 persons. This branch of industry was first introduced at Belfast, but has now spread into various parts of the counties of Dublin, Kildare, Wicklow, Wexford, and Louth. The manufacture of muslins has also been established in some parts of the counties of Cork and Down, as well as in Queen's county. Wherever the manufacture of linen is carried on, that of cotton will doubtless soon accompany it, from the facility with which the weavers can turn their labour from the one to the other, as the demand for either may prevail.

The WOOLLEN manufacture, though early introduced into Ireland, has never been in a flourishing state. Few sheep are kept, and those not in large flocks, as in England, but only for the sake of the wool for their own domestic purposes. It is, consequently, often manufactured and consumed by the family of those to whom the sheep belong. Small quantities of woollen yarn, however, are exported from the south of Ireland, chiefly adapted for the Norwich trade. Broad cloth is also made at Carrick-on-Suir, and blankets at Kilkenny; but neither of these is prosecuted on a large scale. A few stuffs are likewise made in the neighbourhood of Cork; and a woollen manufacture, with the requisite machinery and other improvements, have lately been introduced into the county of Kildare.

GLOVES and LEATHER are made in various parts of Ireland; but the scarcity of oak bark causes most of the hides to be exported in a raw state. What are called Limerick gloves are made of the skins of calves taken from the fat cows when they are slaughtered.

Though most parts of Ireland abound in iron ore, the manufacture of that metal is at present very inconsiderable. A little hardware is made in Dublin, and a few coarser articles at Carlow; but these establishments are not extensive.

DISTILLERIES have long constituted one of the greatest objects of national attention in Ireland, and one of the chief causes of its moral degradation. The whole power of Irish ingenuity has been employed to evade the duty attached to this operation; and the number of fines imposed in 1814, on account of illicit distillation, shows to what extent that practice had been carried. They amounted to 3555, and were principally levied in the north-west part of the country. Their total amount was £90,210. The chief licensed distilleries are at Limerick, Cork, Dublin, Ross, and Drogheda. The quantity of corn spirits, for which duty was paid, when distillation was not prohibited, for the ten years ending with 1813, varied from 3,611,312 to 6,500,631 gallons; and the average quantity for 1811, 1812, and 1813, was 5,101,811 gallons.

Public BREWERIES have been lately introduced into Ireland, and these, with the distilleries, cause a great consumption of malt. The average quantity for which the duty was paid, for the three years ending 1817, amounted to 654,126 barrels of 12 stone, or 168 lbs. each.

Vast quantities of corn are ground into flour, but one of the chief branches of the Irish trade, during the war, was that of salt provisions. This was principally carried on at Cork, where about 100,000 cattle were annually slaughtered. Bacon, pork, and hams, are likewise prepared in great abundance, in most parts of Ireland.

These, with a few glass manufactories, sugar refineries, salt works, and others of daily use, constitute the leading branches of Irish industry.

Ireland is favourably situated for cultivating the FISHERIES, and her attention has, in some measure, been directed to this source of national industry and wealth.

The principal ones in which she is engaged, are those of *salmon and herrings*. Salmon fishing is most productive in the northern parts of the island. The fishery on the Bann, near Coleraine, is particularly celebrated, and 320 tons of Salmon have been taken in a single season. The Blackwater, and some other rivers in the south of Ireland, also furnish great numbers of excellent Salmon. The herrings caught off the coast of Galway are very large; and when cured are chiefly exported to the south of Europe, the West Indies, and America. Several of the parts in the south of Ireland, likewise send vessels to the Newfoundland fishery; and a few are engaged in that of Greenland.

The COMMERCE of Ireland has necessarily a close alliance with her national industry, and the objects to which that industry is applied, as well as with the wants and consumption of her own population. The following brief enumeration of her Imports and Exports, will afford the best idea of the nature and extent of this subject.

Ireland imports from Great Britain, iron, hops, shot, tea, coffee, sugar, pepper, pearl-ashes, seeds, tobacco, spices, indigo, drugs, colours, alum, coals, cotton-wool, logwood, silk, calicoes, earthenware, hardware, beer, cabinet and upholstery goods, with hats, and some other articles. The exports to Great Britain, are, corn, hides, tallow, provisions, butter, cattle, linen, flax, yarn, flax-seed, whisky, and a few other things. From France, the imports to Ireland are principally wines; and the exports, provisions and linen. Portugal supplies wines and fruit, and receives provisions, butter, and linen in return. The trade with Spain embraces the same articles. The trade of Ireland with the North of Europe, is chiefly through England, except that to Drontheim, in Norway, and the Russian ports on the east of the Baltic. Ireland also exchanges her staple articles with the West Indies, for colonial produce, and to North America she exports linen, and receives flax-seed in return.

The quantity and value of the principal of these articles will readily be seen from the following extracts.

The quantities of linen, and of linen and cotton mixed, *exported* in the following years, with their values, were,

					Yards.					Yards.																																
The year ending Jan. 5th 1804					36,132,365					Jan. 5th 1807					.....	39,049,727																								
						1805					.....	42,988,621					1808					.....	40,901,442																	
						1806					.....	43,534,974					1809					.....	43,901,382																	
Years ending					Linen.					Linen & Cotton mixed.					Total Value.																											
					£	s.	d.						£	s.	d.						£	s.	d.																			
Jan. 5th 1811					2,456,464					9	2					87,679					9	2					2,544,144					3	10						
1812					2,092,856					6	8					24,585					3	2					2,117,441					9	10						
1813					2,385,811					14	8					49,070					2	0					2,434,914					16	8						
1814					2,599,625					8	0					64,934					11	3					2,664,559					19	3						
1815					2,824,270					18	8					31,352					17	6					2,895,623					16	2						
1816					2,892,248					16	0					133,967					17	10					3,025,315					17	10						
1817					3,606,114					13	6					50					6	2					3,606,164					19	8						
1818					4,656,267					8	7					1,279					19	5					4,657,547					8	3						
1819					4,293,353					9	10																				4,293,353					9	10				

The value of the cotton goods exported in each of the following years, ending on the 5th of January, was,

In 1813	.....	67,271		In 1817	.....	497,568
1814	.....	79,436		1818	.....	53,312
1815	.....	40,794		1819	.....	33,688

The butter exported in the year ending 5th January, 1804, was 334,251 cwt.,

and its total value £1,704,680 2s. The quantities for the four following years, each ending on the 5th January, were,

	<i>Cwt.</i>		<i>Cwt.</i>
In 1814	451,514	In 1816	428,193
1815	436,154	1817	391,118

Its value, computed at the average prices current, for each of the three following years, ending on the same day of the month, was,

1817.	1818.	1819.
£ s. d.	£ s. d.	£ s. d.
1,430,589 6 0	1,770,633 17 3	2,383,817 11 6½

With respect to the exports of grain, meal, and flour, these were from 1810 to 1812 inclusive, as follow : viz.

<i>Year ending</i>	<i>Grain.</i>	<i>Meal and Flour.</i>	<i>Total Value at the average market Price.</i>
Jan. 5th 1810	1,032,469 Barrels.	149,131 Cwt.	£1,429,725
1811	1,119,982	168,098	1,717,599
1812 .. .	1,397,469	173,344	2,938,180

The total values of these for a later period, were, for

	1817.	1818.	1819.
	£ s. d.	£ s. d.	£ s. d.
Grain.....	1,025,921 18 5	1,034,015 8 4	1,681,159 18 6
Meal and Flour	123,186 16 0	55,961 7 4	210,036 6 2
Total	1,149,108 14 5	1,089,976 15 8	1,891,196 4 8

The spirits exported from Ireland, amount on an average to about 100,000 gallons. Great quantities of beef and pork, as well as of bacon and hams, are exported, besides numerous cattle and hogs.

During the year ending 5th January, 1815, Ireland *imported* the following quantities of

Tobacco	1,568,030 lbs.
Tea	3,387,012
Sugar	358,919 cwts.
Cotton wool.....	20,515

Of this last, 12,455 cwt. was exported. The average import of wines is about 5030 tuns.

The value of the whole imports, according to the official rates of valuation, for the three following years, each ending on the 5th of January, are extracted from the account printed by order of the House of Commons, 2d April, 1819.

<i>Years ending</i>		£	s.	d.
5th Jan. 1817		4,693,745	4	6
1818		5,644,175	16	5½
1819		6,098,720	2	7½

CHAPTER V.

Government—Constitution—Laws—Army—Navy and Revenue.

THE GOVERNMENT and CONSTITUTION of Ireland, while separate from those of England, were constructed upon the same model, being vested in a Lord Lieutenant, or Viceroy, (the king's representative,) a House of Peers, and a House of Commons. No act of this Constitution, however, prior to the year 1782, could become a law till it had been sanctioned by the king and council of Great Britain. In that year the legislative independence of Ireland was established; after which the sanction of the British Government was no longer necessary. But the union of the two Countries, which was consummated on the 1st of January 1801, has identified the government and constitution of both. By this act, Ireland is represented in the Imperial Parliament of the United Kingdom, by twenty-eight temporal and four spiritual Peers. The former are elected for life by the Peers of Ireland, and the latter sit by rotation of Sessions. In the House of Commons, the number of members for Ireland is 100; two for each of the thirty-two counties, two for Dublin and Cork, one for the University, and one for each of the thirty-one principal towns.

The Lord Lieutenant still maintains a vice-regal court in Dublin, but the Irish board of Treasury was consolidated with that of Great Britain, on the 5th of January 1817. Boards still exist, for the collection and management of the different branches of the Revenue. The Lord Lieutenant is also assisted in the discharge of his high functions by the advice of a privy council, the members of which have the same privileges as in England. The judges and courts of law are similar in both countries, but there are some minute differences between the statute and common laws of England and Ireland. The assizes are held twice a year, as in England; besides which, there is in each county, except that of Dublin, an inferior judge, called an assistant barrister, whose business it is to hold a court at least twice a year, in the most convenient parts of the county, for the trial of civil causes.

The ARMY and NAVY are now necessarily united with those of Great Britain, and are, therefore, included in the numbers stated under that head. To these Ireland furnishes large contributions, besides raising a numerous body of militia, volunteers, and yeomanry. Many of the Irish officers, both in the army and navy, have distinguished themselves for skill and courage; and the most renowned General of the present day is a native of that Island.

The REVENUE of Ireland arises principally from Customs, Excise, Stamps, and Post-Office duties; with taxes on hearths, windows, houses, carriages, servants, horses, &c. The average Revenue for three years, ending with 1817, from the Customs was £1,775,065; from the Excise £3,124,783; from Stamps £596,668; and from Post-Office £82,167. Total Irish Currency £5,245,347. The net produce of the taxes on hearths, windows, houses, carriages, servants, horses, dogs, and coach-makers, according to the average of three years, ending with 1814, was £437,450. The gross produce of the permanent revenue, in 1815, was £6,937,558, the neat payment £5,525,699; and the expenditure for the same time, was, £13,326,433. The gross receipt for the year ending 5th of January 1817, was, £6,136,910; of which the Customs produced £2,082,043; the Excise £3,208,931; the Stamps £611,709; and the Post-Office £222,747. The hearth money was £58,828; Carriage duty £98,460; Servants' duty £54,999; and horse duty £99,255.—See CHAPTER IX.

CHAPTER VI.

Religion and Ecclesiastical Geography—Education—Language and Literature—Arts and Sciences—Manners and Customs.

THE established RELIGION of Ireland is the same as that of England ; and the priesthood, as well as the ecclesiastical courts, are the same in both. The hierarchy consists of archbishops, bishops, priests, and deacons, all acknowledging the king's supremacy as the head of the church. The members of the protestant episcopal church, however, constitute only a small portion of the whole population, more than two-thirds of which are Roman Catholics, who have a hierarchy similar to the protestant establishment, while at least half the remaining third are presbyterians, and dissenters from the episcopal establishment.

Ireland is ecclesiastically, as well as politically, divided into four provinces, but the limits of these divisions do not strictly coincide with each other. Each province of the ecclesiastical division is under the jurisdiction of an archbishop, who has likewise his particular diocese. The archbishops are those of Armagh, Dublin, Cashel, and Tuam, presiding respectively over the northern, the eastern, the southern, and the western divisions of the island. The archbishop of Armagh is styled *Primate of all Ireland* ; and the archbishop of Dublin *Primate of Ireland*. The archbishop of Cashel is *Primate of Munster* ; and the Metropolitan of Tuam is *Primate of Connaught*.

The following are the sees in each of these provinces, independently of the particular diocese belonging to the Primate, viz.

<i>Provinces.</i>	<i>Sees.</i>
ARMAGH 7	{ Meath, Kilmore, Dromore, Clogher, Raphoe, Down and Connor, and Derry, Ardagh which did belong to this province, is now always joined to the archbishopric of Tuam.
DUBLIN 3	{ Kildare, Leighlin and Ferns, and Ossory
CASHEL 5	{ Waterford and Lismore, Limerick and Ardferf, Killaloe and Kilfenora, Cork and Ross, and Cloyne.
TUAM 3	{ Clonfert and Killmacduagh, Killalla and Achonry, and Elphin.

The Irish bishops are not elected by the respective chapters, but are nominated by the king, and appointed under the great seal. There are also 33 deaneries, and 34 archdeaconries in Ireland ; but these latter have not a visitatorial jurisdiction as in England. The bishops hold their visitations annually, and the archbishops visit their suffragans triennially. This, however, must be understood generally, for some of the bishops have often been absentees for longer periods than those above-mentioned.

Church Livings in Ireland are usually larger than in England. They consequently extend over wider tracts of country, and hence the increase of cultivation has, within a few years, greatly augmented their value. This is so much the case, that a living of less than £500 a year is considered small.

The Roman Catholic church in Ireland is composed of four archbishops, and twenty-two bishops, the former of whom, like those of the protestant establishment, derive their titles from Armagh, Dublin, Cashel, and Tuam. Many of the suffragans of these four have the same titles as the protestant bishops, and preside

over similar tracts of country, except that in some instances their sees are more contracted, as their number is greater. Every bishop has also his Vicar-General, nominated by himself, and whose jurisdiction ceases on the death of the prelate by whom he was appointed. On the decease of a catholic bishop, the clergy of the diocese assemble, and choose a person to succeed him, and then petition the Pope that he may be appointed to the vacant See. The bishops of the province also generally unite in presenting two or three men of distinguished merit to the Pope for the same purpose, one of whom is usually chosen. Besides the catholic archbishops and bishops, there is a dignitary, who, without episcopal ordination, and with the title of warden, has the same jurisdiction as a bishop in the town and district of Galway.

The funds and other means of support possessed by the catholic hierarchy, are much less than those of the protestant establishment; and the bishops, therefore, generally receive offerings at Easter, from the inferior clergy. Mr. *Wakefield* states that a catholic prelate who furnished him with information, says in his communication, "As Bishop, I never received more than £165, and as parish priest £350, currency. A dozen of my brethren, I think, receive more; but others much less. As to other parish priests, the majority of them do not receive above one hundred guineas a year, and there are many who do not get £60: these are supported chiefly by the hospitality of the parishioners."

It is generally supposed that the *Presbyterians* are the most numerous body of protestants who dissent from the established church. They are principally the descendants of the Scotch presbyterians who settled in the northern part of the island, and of the English puritans who were encouraged by James I. to settle in the same province. Some of their ministers have small stipends from government, and the whole number of their communicants is estimated at half a million. The *Quakers* are also a numerous and respectable body; and the Wesleyan *Methodists* are daily increasing. Many of the catholics, within these few years, have left their ancient faith, and joined the Wesleyans and other sects, but few of them seem to have been united to the establishment.

EDUCATION has till lately been more neglected in Ireland than in any other part of the British dominions; and this neglect has been followed by its natural consequences, ignorance, barbarity, and superstition. But the happy impulse which now pervades almost every part of Great Britain, in bringing the elements of useful knowledge within the reach of all classes, has also diffused itself over the sister kingdom, where it is producing fruits worthy of the motives which suggested the plans, and the efforts which are carrying them into execution. Various establishments for the education of youth have long existed, as the University of Dublin for protestants; the College at Maynooth for catholics; and several endowed schools in various parts of the island, among which those of Kilkenny and Armagh deserve particular notice. But these had little influence on the great mass of the lower orders, to whom genuine charity has at length extended her liberal hand. The effects of this system will be best perceived by consulting the Reports made by the Commissioners appointed to superintend its execution, from which it appears,

"That there are 33 endowed classical schools in Ireland, (besides 14 of private foundation), the united emoluments of which amount to about £9000 per annum, and the number of scholars educated in them to nearly a thousand.

"That, exclusive of the parish schools in the city of Dublin, and of other schools in different places, supported by *private* endowments, the number of which is 72,—there are 44 public establishments for the education of the lower classes, in which upwards of 4200 are lodged, maintained, clothed, and educated at an annual expence of £70,000.

“Returns have been communicated to us from 17 dioceses out of the 22 into which Ireland is divided, and from these it appears, that exclusive of the charitable institutions, there are 3736 schools in these dioceses, in which 162,467 children are taught, of which number 45,590 are protestants, and 116,977 catholics.

“Hence we collect that, as these dioceses may be estimated to contain four-fifths of the population of Ireland, the whole number of schools, including the parochial schools, amount to 4600,—the scholars taught in them to 200,000, being an average of 43 to each school; and as these returns were made generally in winter, when many children are unable to attend, and as itinerating schoolmasters, whose number is very considerable, are frequently not included in them, we are confident that more than 200,000 children, of the poorer class, receive annually such sort of instruction as these schools afford.

“That instruction, except in a few instances, extends no further than reading, writing, and the common rules of arithmetic; and the prices paid are, on an average, 10s. per annum for reading, 17s. 4d. for writing, and £1. 6s. when arithmetic is added.” *Fourteenth Report.*

The IRISH LANGUAGE is a dialect of the Celtic, intermixed with many words of Gothic origin. As Ireland was the last retreat of the Celts, to which they retired in considerable bodies, it is regarded as presenting the most numerous and genuine specimens of that language. The foreign words and idioms of the Gothic class that have been introduced, have doubtless been imported by the Belgic colonies, the Scandinavians, and the English, who have at various periods settled in the island. Some valuable manuscript annals are said to exist in the ancient Irish dialect, which many learned persons have thought would be highly worthy of publication, accompanied with an English interpretation.

The LITERATURE of Ireland has an undoubted claim to antiquity, for soon after the introduction of christianity several writers flourished, whose works have been admired, considering the period in which they were written. These were principally lives of saints, and other pious legends. But, when the lustre of that polish which the Romans had diffused over Europe became tarnished, and the violent eruptions of the northern Barbarians had spread the dark veil of ignorance over the countries they had ravaged, Ireland was the asylum of European learning, and contained many seminaries in which the dying embers were cherished, Scotland was originally indebted to Ireland for the elements of her literature and sciences, as St. Columb, who first established those colleges in the western islands which were so long celebrated, went from Ireland to I-colm-kill. Other countries of Europe were also benefited by the talents and attainments of Irishmen, and numerous students resorted thither for instruction, as early as the seventh century. If the statements of their historians be correct, the college of Armagh was in such repute in all parts of Europe, that it contained not less than 7000 students at one time, and when the devastations of the Scandinavians had spread a mental gloom over Britain, Ireland still sent forth her luminaries in every direction.

Besides the preservation of learning during the dark ages, Ireland has had the honour of producing many eminent men in more modern times, and the names of Usher, Farquhar, Swift, Steele, Berkeley, Burke, Goldsmith, Parnell, Sheridan, and Kirwan, would do honour to any country. Few nations, indeed, have given more undeniable proofs of a genius adapted to literary and scientific pursuits. Painters or sculptors, who are natives of Ireland, both study and practice in foreign countries. The national music is chiefly of the plaintive kind, though it is not destitute of lively and exhilarating strains.

The only UNIVERSITY in Ireland is that of Dublin. This was first projected by Archbishop Leech, about the year 1311, but death having prevented him from carrying

his design into execution, it was founded and endowed by his successor, Archbishop Breknor. Its revenues having failed, after about 40 years, it was re-endowed by voluntary contributions, under the auspices of Sydney, the Lord Deputy, in the reign of Elizabeth, by whom it was chartered under the title of Trinity College. It consists of a Chancellor, Vice-Chancellor, Provost, twenty-two Fellows, and thirteen Professors of various sciences. The number of students is generally about 600, including 70 on the foundation, upon whom the University has the power of conferring degrees in all the arts and faculties. The honourable and lucrative situation of fellow is only bestowed upon such as have proved themselves in possession of superior attainments after a long and severe examination. The building consists of three quadrangles, containing a chapel, a library of great value, lecture-rooms, a hall for examinations, together with a printing-office and other suitable conveniences.

The MANNERS of the higher and well-educated classes in Ireland, who have enjoyed the advantages of travelling, or of mixing with the world, are equally polished with those of the same ranks in England. They are, however, more addicted to wine and robust exercises, and, consequently, less attached to intellectual pursuits. This creates an extraordinary flow of health and spirits, and has perhaps given rise to the remark of an able writer, that "Ireland produces the stoutest men, and the finest women in Europe." In all the other classes of society, the difference between the manners of the English and the Irish is more strongly marked. There are, indeed, two distinct divisions of the people in Ireland, as different from each other in genius, manners, customs, and dispositions, as the peasantry of the Lowlands of Scotland are from the Highlanders, or as those of England from them both. On this subject a recent and judicious traveller has the following remarks. "The Anglo-Hibernian differs more from the native Irish than he does from the English. His character is rather complex, it is composed of qualities which are common to this country and his own, with some marked peculiarities which are distinct from either. Though he is proud of being an Irishman, he is full of prejudices against the Aborigines of his country; he heartily hates their language, their manners, their customs, and their superstitions; and is not unwilling that they should be considered less friendly to the government and constitution than himself. He looks with contempt on the poor unlettered native, a feeling that has been transmitted from his ancestors, and is interwoven with his earliest associations.

"An original Irishman resembles in many respects a Highlander: in some grand outlines he is indeed different, but this should be attributed, perhaps, to his situation, which is certainly little calculated to unfold his genuine character, rather than to any great essential distinction.—There is no mark by which the Irishman (always recollecting that by this I mean the original race of his country,) is more distinguished than *inquisitiveness*. He will walk with you miles to discover where you came from, where you are going, and what is your business; he will appear merry to make you frank, and perfectly untutored and simple with a design constantly in view. This disposition has been cherished by the recitation of the *sceuldachs*, a species of legendary tales that have been transmitted to him from time immemorial. Everyone is in possession of some of these; and the recital of them is one of the most favourite pastimes.—This inquisitive turn of mind is generally accompanied with some degree of thoughtfulness. A Highlander is both inquisitive and thoughtful, so is an Irishman; though I am inclined to think that he has not quite so much of the pensive philosopher in his nature. He can more easily become jocular than a Highlander; nor is he so apt to make those moral reflections on the common incidents of life. The latter has a degree of tender melancholy in his disposition which influences most of his habits of thinking; whereas the former, though far from being destitute of melancholy, is not subject in the same degree to its controul.—Acuteness and

shrewdness are also qualities which strongly mark the Irish character ; and yet these valuable qualities are often concealed by that appearance of simplicity, and that blundering precipitancy which so mightily amuse every stranger. Indeed, these last dispositions seem not very compatible with any extraordinary quickness of apprehension, and might lead one to suppose, were it not for the most undeniable evidence to the contrary, that it really had no existence. But let any one converse with an Irishman on any subject that is not altogether beyond his understanding, and he will find him shrewd though unlettered, and not quite unintelligent, though on most subjects uninformed: possessing a wonderful facility of comprehension, and an equally singular talent for acute and original remark. These endowments, when found in persons well educated and polished, and when allied, as in this case, they generally are, with a brilliant playfulness of fancy, produce the happiest effect, and form a character at once pleasing and original.

“ Strong local attachment forms a very prominent part of his character. The Irishman, like the Highlander, must often go from home ; he must go in search of that bread which his country denies him, but he can never forget the cottage of his early years : whether in the east or west, though even buried amid the ignorance and vice of St. Giles’s, the lovely valley in which he first began to live, and the green hills of his native isle, with all the soft and endearing associations which they awaken, never cease to warm his imagination, nor, to his latest hour, do they depart from his memory. The wild and simple strains which first delighted him in the cabin, while they sooth his sorrows in a foreign clime, cherish his fondness for home, by exciting the tenderest and most delightful sympathies of the human heart.

“ Fidelity to friends is another trait in the Irish character ; and from this to hospitality the transition is easy. The hospitality of the Irish, like the Scottish Highlanders, is proverbial ; and never surely has the stranger visited the neighbouring isle, without having satisfactory proofs of it. The poor labourer, who has only potatoes for himself and his children, will give the best in his pot to the guest, from whatever quarter he may come ; he bestows his simple fare with a kindness that has often delighted me. Unlike the peasants of some other countries, who frown at the wandering intruder, he seems to feel a real pleasure in giving food to the hungry ; he gives the hearty welcome of his country to all who approach his humble cot—*ceud mile faillte duit* (a hundred thousand welcomes.)—The Irish are prone to extremes in their prepossessions or their antipathies, their love or their hatred. They have no idea of the heartless neutrality of indifference, of the frigid torpor of insensibility ; and it is with difficulty they can maintain that equanimity of mind which accords with the happy medium of moderation. They are ardent and high spirited ; though not so proud as the Highlanders, they have all their impetuosity. No people in the world can be made better friends ; and it is not easy to conceive worse enemies. They have vanity, and may be flattered ; they possess warm affections, which may be easily secured ; but they have that degree of resentment that will not suffer them with impunity to be injured or insulted.”—*Dewar’s Observations on the Irish*.

Mrs. Plumptre, who travelled both in the northern and southern parts of Ireland, asserts that, “ a marked difference is to be observed between the inhabitants of the two extremes of Ireland, the north-east, or county of Antrim, and the south-west, including the counties of Cork and Kerry, strongly supporting the belief that their origin is to be traced to different sources. In the south of Ireland the people are much darker than in the north ; and here was the country where the Milesians from Spain, according to all the traditions, both written and oral, were first established. Now the dark complexion, eyes, and hair, have ever been, and still are, the distinguishing characteristics of all the southern nations of Europe ; as the fair complexion, blue eyes, and light hair, sometimes deviating into red, were, and are still, of the northern.

The one are bleached by cold and snows, the others darkened by the warmth of the sun. Now every possible presumptive evidence leads to the belief that the north of Ireland and Scotland were originally peopled from the northern nations of Europe, the parts which formed the ancient Scandinavia; while the south, if originally peopled by the same, afterwards became the settlement of an Iberian colony, whose descendants remain to this day.”—*Residence in Ireland*.

Mr. Wakefield, in his “Account of Ireland,” published a few years ago, and who had excellent opportunities of becoming personally acquainted with the subject, remarks that, “In the general character of the Irish, many traits are completely national, and are common to all ranks. To say that they are brave, lavish in hospitality, warm hearted, sensible, eloquent, witty, possessing an uncommon cheerfulness of disposition, and are a people with whom it would be desirable to reside, would be paying them no compliment. They have all these qualities, and some of them in an eminent degree; but the impartial observer must describe them as loquacious, and extravagantly prodigal, though often parsimonious. In whatever they undertake there is no moderation; all is in extremes; their vanity predominates, and, like the French, they entertain a high idea of themselves, and of the advantages of their country. Hence their appetite for praise is unbounded, and censure always mortifies their pride, and irritates their feelings. They are irascible, easily offended, violent, and impetuous in their resentments. In gaiety, they enjoy the present moment, without any care for the future; and from the same thoughtless habit, readily embark in extravagant schemes. From these causes, they are unsteady in their conduct, often grasping at objects which, when attained, afford not the expected gratification; and are therefore abandoned almost as soon as tried. That they are generous I have admitted; but this quality only extends to strangers.”

The difference which exists between people a few degrees removed from the sphere of wealth and fashion in the two countries is very striking, and this the same author is disposed to ascribe, in a great measure, to the mode of female education, and the time and manner in which marriages are formed. With respect to the first of these interesting subjects, all the attention, he says, is bestowed upon exterior accomplishment, at the expense of every solid and useful acquisition, which would qualify them for discharging the subsequent duties of life, or extending their beneficial influence through the very essence of society. Marriages take place in Ireland, in every rank, earlier than in England; and while the female is between the age of sixteen and nineteen they are generally betrothed. They thus enter upon the most important duties of life, before they are able justly to appreciate the value of time, or the mind has acquired sufficient strength and experience for their proper discharge. In the present state of Ireland, benevolence is frequently called into exercise; and opportunities of this kind are never neglected by the female part of society. This disposition, indeed, is a distinguishing trait in their character. Many writers have observed, however, that the higher classes have an overbearing pride, which prevents them from educating their children in industrious habits, or suffering them to engage in commercial transactions. Tradesmen they regard as a distinct class, and every kind of business is contemned, but except of *wine-merchant*, in which some branches of the first families are engaged, a predilection strongly expressive of the national partiality for the juice of the grape.

The mercantile and trading part of the community in Ireland are not characterized by that spirit of industry, enterprise, and perseverance, by which the British merchant is so eminently distinguished; hence, bankruptcy is more frequently the consequence of expensive habits, than of hazardous speculations. Many of the principal merchants, however, especially in the northern parts of the

country, are of Scotch origin, and they are distinguished by the frugal and persevering qualities peculiar to their native country.

Quickness of apprehension, impatience of injury, implacability in resentment, ardency in every affection, and hospitality in every situation, strongly mark the Irish character. On this head, the intelligent *Arthur Young*, speaking from experience, says, "every unprejudiced traveller who visits Ireland, will be as much pleased with the cheerfulness, as obliged by the hospitality of the inhabitants; and will find them a brave, polite, liberal, and ingenious people. Warm friends and revengeful enemies, they are inviolable in their secrecy, and inevitable in their resentment, with such a notion of honour, that neither threat nor reward will induce them to betray the secret or person of a man, though an oppressor, whose property they would plunder without ceremony." Both this writer and Sir *John Davies* trace much of the idleness and dissipation of the lower classes to the oppression of the higher; and on this subject Dr. *Crump*, in his "Essay on the employment of the people," remarks, that "the misery and idleness occasioned by poverty and oppression united, is a principal source of the prevalent tendency to inebriety, and the consequent riotous feuds so remarkable among the Irish. Drunkenness is the solace of misery, the source of idleness, the great pleasure of the uncivilized, in every quarter of the world. Habit and example confirm and extend a practice so destructive; for as general wealth increases, and as industry and civilization become diffused, it is gradually diminished, and, as a national stigma, at length becomes effaced."—"The strong attachment which children of both sexes show towards their parents is a noble trait in the character of the indigent Irish. In China the duty must be enforced by law, but in Ireland it is the effect of national feeling. Young people never permit those to whom they are indebted for existence to work during their declining years. The poor laws of England have, perhaps, steeled the heart against these honourable sympathies, but in Ireland they are universal. The common expression of these people, when they wish well to any one, is "long life to your honour!" a compliment carried to such excess, that a stranger might imagine that the Irish considered length of days as the ultimate earthly blessing." *Wakefield's Ireland*.

The attachment of the lower classes of the Irish to their children is equally strong. Sir *John Carr* observes, that "to play with her child is the highest delight of the mother; and, for this indulgence, she will, by an injudicious but natural miscalculation of maternal duty, omit the care of herself and her house; nor is the piety of their affections to their parents less distinguishable."

When one of the lower class of the Irish would appear dressed, at a fair or on a holyday, he always puts on all the clothes he has, and it is then not uncommon to see him, in the hottest part of the year, toiling under a couple of shaggy great coats. When inspired by whiskey the men become very quarrelsome, and if this happens at a fair, or any other kind of meeting, where numbers are assembled, old quarrels are frequently renewed, and a few broken heads are the usual consequence. Mrs. *Plumptre* says "there is a much stronger resemblance to the French national character than to the English; and this resemblance is equally forcible in the lower as in the higher classes of society.—Ardent in their pursuits, rapid in their movements, they blaze brilliantly for a while, but the ardour is too apt easily to subside; while with the Englishman, who is less alive at catching fire, when the flame within him is once lighted, it burns on even and steady, nor is it readily exhausted. It is perhaps extraordinary, considering the state of oppression in which the Irish have been kept for such a lengthened series of years, that they still retain so much of their native wit, ardour, and vivacity; but even now, an Irishman, like a Frenchman, will have his joke if it comes in his way, *coute-qui coute*." The

Hibernian possesses an almost inexhaustible fund of good humour, and is always disposed to indulge in the utmost hilarity. Miss *Edgeworth* has justly remarked that "in Ireland, the countenance and heart expand at the approach of wit and humour; the poorest labourer forgets his poverty and his toil in the pleasure of enjoying a joke."

The superstitions of the lower classes of the Irish form a copious theme with many writers who have described that country. This perversion of the natural faculties universally prevails, where civilization darts its rays so feebly as only faintly to illumine, instead of dissipating, the dark clouds of ignorance by which the judgment is overcast. This weakness also extends to some of the higher ranks, who might have been supposed beyond its influence.

"The Irish expend large sums at their funerals, and such is their ambition for pageantry and show on these occasions, that the poor often begin to collect money for defraying the expense before the person is dead. Waking the dead is a most extraordinary custom. The following account of a wake, in a letter written from the South of Ireland, may be relied on as correct.

"I think what they call a wake here seems to be the highest degree of diversion. I went the other day to see the nurse of one of my sister's children, who I supposed to be in trouble, as her father had died suddenly in the room with her the night before. I found the kitchen a scene of merriment. The poor old man was laid out on the table with candles and plates containing salt placed all around him. I missed two of the daughters; the nurse said they were cleaning out the barn for the girls to dance in, and that one of the lads was gone for a piper. The writer, who is a native of the north, adds, 'We know nothing of this waking amusement in our part of the country. There I have seen the happiest set of female faces, thirty or forty spinners together at work, round a large turf fire, singing in turns, or the old dame telling frightful stories. The using salt at wakes arises, as far as I can learn, from an old custom of the Greeks and Romans, who considered it as lucky. When employed the priest first blesses it, and some of it is then put into holy water. I have inquired of various Roman Catholics in this country, but cannot learn any thing more respecting it. Amusements of every kind are practised at these wakes,—blind man's buff, hunt the slipper, and sometimes dancing, but the last is less common. The intention of these amusements is to divert the young people, great numbers of whom are assembled on such occasions. The old ones smoke, and the young make merry to keep themselves from falling asleep. There are no wakes in the north except among the Roman Catholics. The presbyterians assemble also on such occasions, but they have no amusement, nor do they sit up the whole of the night with the corpse, as in this part of the country.'—*Wakefield's Ireland*.

"The practice of employing hired mourners at funerals, though involving one of the most palpable absurdities that can be imagined, has been always a very prevailing one. This is carried to a great height in Ireland, not being by any means confined to the lower classes, but obtaining equally among those several degrees above them. There are men who make it their regular employment, and have fixed prices for their services; these are called *Keeners*: the lowest price for the hire of one is five shillings; but the poor will distress themselves in any way for other things, rather than omit this tribute of respect to a deceased friend. The *Keener*, when hired, is informed of the connexions and family of the deceased, and the principal circumstances of their lives, that they may come properly prepared for what they are to say; and they make orations over the body, which are, according to report, at the same time extremely pathetic and truly poetical: they are always in Irish. The corpse is set out in the room, and the friends and neighbours are seated

around it, leaving room at the head for the *Keener*. He takes his station and begins his lamentations, which are made in a sort of song or recitative, bending his body backwards and forwards, and making many gesticulations, clasping his hands together between every sentence. If the deceased happens to be a young person, he pathetically asks, 'Why did you leave us? had you not every comfort that heart could wish? were you not beloved of your parents and your friends? but now your house is left miserable and desolate; your poor father, like a blasted oak, remains open to every wind of heaven, having lost its finest branches even in early bloom.' Various other questions of a similar kind are put, the dress of the deceased is described, the place they used to occupy in the room while living; in short, every tender and melancholy recollection possible is conjured up and descanted upon with true pathos, and apparently with the deepest feeling, though perhaps, till this moment, the speaker had never heard of the person he laments. When his oration is finished, all the friends begin their doleful cry, having the hoods of their cloaks thrown over their heads, and handkerchiefs in their hands. After they have continued this awhile, they cease, which is the signal for the *Keener* to begin again; and he is never at a loss for something to say:—thus they go on alternately, till the *Keener* has given the worth of the money he is to receive, when the lamentations cease, the eating and drinking commence, and pipes and tobacco are handed about: they are an indispensable part of the ceremony. If there is something almost ludicrous in the idea of the *Keener's* lamentations, thus called upon to evince a sorrow which he cannot feel, this must be a bitter and harrowing ceremony to the near connexions who do feel. It is to be observed that the ceremony is confined to the Catholics."

The same author observes with respect to the funeral processions in the South of Ireland, I had often *heard of* the noise, the sort of yell used by the poorer sort of Catholics on these occasions, but had never till now *heard it*. Indeed, it is impossible, without hearing it, to form an idea of any thing so dreadfully discordant. It is to be presumed that, intended by those who utter it as an expression of grief, it is considered by them as extremely plaintive and affecting; but to ears unaccustomed to it, nothing could appear less so. The coffin was laid upon one of the common Irish cars, drawn by one horse, and around was a prodigious concourse of people, more women than men; they were all in long blue cloth cloaks. As the funeral proceeds on its way, it is commonly joined by still increasing numbers, and in going through a town or village the noise is redoubled, so that I, being in a town, heard it to perfection. I could not perceive any sign of tears, or the least symptom of real grief upon the countenance of any person attending."—*Mrs. Plumtre's Residence in Ireland*.

We shall conclude this sketch of the Manners and Customs of Ireland with the summary of a recent traveller. In his "View of the Society and Manners of the North of Ireland," Mr. *Gamble* observes, "It has not splendour and decoration to grace the noon-day of prosperity like England, but there is in human life, as in the revolution of time, midnight as well as mid-day, and it is to cheer and brighten that midnight of adversity that it is peculiarly fitted. It may not have, it has not, much of amusement for the gay, or much of elegance or refinement for the fashionable; but it has ever society for the solitary, kindness for the sick, consolation for the afflicted, and sympathy for the distressed."

CHAPTER VII.

Antiquities and Curiosities of Nature and Art.

AS all the architectural structures in Ireland, erected prior to the eleventh and twelfth centuries, were composed of wood, no ANTIQUITIES of this kind, of an earlier date, can, of course, be expected. Some Druidical monuments, however, still exist, but the most celebrated relics in the sister kingdom, are the *Pharos*, or *round Towers*, respecting the use of which antiquaries have differed much in their opinions. Vestiges of *circular forts* and *barrows* of earth, thrown up in honour of the illustrious dead, are still visible in some parts of Ireland. In the eleventh and twelfth centuries, castles, churches, and monasteries, began to be constructed of stone, which had previously been employed only in the erection of funeral monuments. These edifices, however, are generally considered as the work of foreign architects.

The round towers, which are found in almost every county of Ireland, undoubtedly constitute its most ancient monuments, and are thought to be of native construction. A brief sketch of one of them will suffice for the whole. About twelve miles north-west of Kilkenny, at a place supposed to have been the cemetery of the Anchorites or Culdee Monks, several vestiges of ancient art are still to be seen, among which are the remains of a chapel and a round tower. In the chapel there is a large raised tomb, on which is the figure of a man in armour rudely engraved. His hands are raised, as in the attitude of prayer, and a dog reclines at his feet. The date on the tomb is 1489, but the rest of the inscription has become illegible. The tower stands a few yards west of the chapel, and is much dilapidated, its upper parts being wholly destroyed. Mr. *Tighe*, in his survey of this county, says its height is 96 feet, with eight stories and seven floors. The door opens into the first story, twelve feet from the ground, and faces the chapel. The wall at the door is three feet two inches thick, and the upper story of the building has four windows, with angular tops, formed by the inclination of two stones supported against each other. Mr. *Archdale* states the circumference of the tower at forty-eight feet, and the dimensions of the door at six feet by two.

The circular entrenchments found in Ireland are generally ascribed to that period when great part of the country was ravaged by the Scandinavians. Some of the ancient religious edifices, from the peculiarity of their ornaments, are also supposed to have been built by the same people. Of this kind are the chapels at Glendalagh, Portaferry, Killaloe, and Cashel. The ravages of those northern warriors, in their progress through the country, taught the native chiefs the necessity of defending themselves by fortresses and castles, and many of these are supposed to have been erected in the eleventh century, but with so little strength and solidity, that nearly all vestiges of them have long since disappeared.

Churches and monasteries accompanied the introduction of Christianity into Ireland. These were, at first, not only small, but, being constructed of wood, were unable to resist the dilapidating hand of time. In the middle of the Bog of Monela, and at a short distance from Roscrea, there are, however, some interesting ruins of the Abbey of Monaincha. They are situated on an island in the Bog, containing about three acres, and cannot be approached either by horse or carriage,

at any time, nor even on foot during the greater part of the year. They include the relics of two chapels, the priory church, and the Abbot's apartments, belonging to an ancient monastery of the Culdean Monks. This abbey has, by some antiquarians, been supposed to belong to the seventh century.

When the English settlements took place, buildings, dedicated both to religious and civil purposes, were greatly multiplied, and have been well described in the works of *Ledwich*, *Grose*, and *Ware*, to which the reader, who wishes for particular information on the subject, is referred.

Curious specimens of ancient art, consisting chiefly of gold and silver ornaments, weapons, and implements of various kinds, are frequently found buried in the bogs. Many of these are not only of good workmanship, but so singular in their construction, that their use cannot always be ascertained. This renders them highly curious, for it indicates either a great knowledge of the arts at a very early period, or a commercial intercourse with other nations, by whom they were supplied. Each conjecture, however, stretches beyond the first dawnings of history, and has been a perplexing theme to the most celebrated antiquaries.

In NATURAL CURIOSITIES, few countries of equal extent surpass Ireland. The charms of its natural scenery, the gloomy majesty of its subterraneous caverns, and the stupendous magnitude and unexampled sublimity of its basaltic columns, all conspire to excite admiration. The beauties of Killarney, heightened by the *Arbutus*, with its snowy blossoms and scarlet fruit, have already been described. Among the peculiar scenery of this kind, are the *Galtee* mountains, which separate the counties of Cork and Limerick. These mountains present a singular assemblage of conical hills and apparently exhausted craters, which now form the beds of lakes. When viewed in conjunction with the spacious caverns, formed apparently by some great convulsion of nature, many naturalists have considered the whole as the effect of subterranean fire. The scenery of *Glangariff*, in the vicinity of Bantry Bay, and that of the *Dargle*, in the county of Wicklow, is beautifully romantic.

Numerous caverns have been formed in the rocky coasts, which present their towering fronts to the unbroken force, and, in some places, to the incessant fury of the Atlantic waves. Among these *McSwine's Ginn*, on the coast of Donegal, is one of the most remarkable. This rocky cliff, in which a small bay is formed, is about sixty feet high, and the sides are nearly perpendicular. The lower stratum is a porous sand-stone, and the cavern which the waves have worn, communicates by an aperture with the summit of the cliff. "When the wind comes from the north-west it blows directly into the small bay: and the billows being driven with great violence into this cavern, the water, forced to find a passage through the aperture, rises to the top of the cliff, from which it precipitates itself back into the sea with a most tremendous noise. The rock, where the water runs over, has assumed a blue colour, which gives to the whole a volcanic appearance." Scenes of equal magnificence and grandeur are not uncommon on the rocky promontories which stretch into the Atlantic, and defends the bays and natural havens of this favoured coast from the violence of that mighty ocean, which rolls its foaming waves against them with inconceivable power. "The terrific effects produced by the immense surges, swelled to the size of mountains, dashing against the gigantic sides of these tremendous bulwarks, exposed for ages to the rude shocks, cannot be conceived by those who have never seen them, nor described by those who have."

Dunmore, in the county of Kilkenny, is one of the most remarkable in Ireland, and will serve as a specimen of the rest. The following is the description inserted in *Mr. Wakefield's Statistical Account of Ireland*.

"It is situated a little to the south of the church of Mothe, in a cultivated

field, on the slope of a gently-rising hill. The mouth of the cave opens into a large oval pit, about forty or fifty yards wide, which appears to have been formed by the sinking in of the surface. It is in the eastern end, and there is a descent to it of 70 feet from the opposite quarter, over the rubbish of stone and clay. The other sides of the pit are almost perpendicular. Rabbits often burrow near the entrance, and wild pigeons reside within the first cavern, which is spacious, and of an irregular form. The roof is nearly 50 feet in height, and the floor slopes downwards. Towards the left, a narrow passage leads by a slippery ascent to the interior cavity, where a great variety of stalagmitic forms, together with the irregularities of the rock, exhibit a most singular and striking appearance. Proceeding onwards, the cave grows narrower, and again opens into a large apartment, beyond which there are winding passages into other cavities. In one of these, the cave, it is said, runs out to the other side of the hill, where the light may be seen through a fissure or chink. The bottom is always slippery, and stalactites, formed by the dripping water and calcareous sinter, are deposited in various shapes on the sides and bottom. In one of the inner caverns, imagination supposes it to assume the form of an organ, in another that of a cross or an altar. A stream of water passes through the cave at a considerable distance from its mouth, and many skulls and bones have been found near this stream and in other parts far within the cavity."

Mrs. *Plumptre*, who lately visited this cave, or at least the mouth of it, does not give credit to those stalactical and varied ornaments which other travellers have described. She observes, "All around was one dismal black rock—I had soon seen enough, or rather I soon returned, because I could not see any thing."

The most stupendous natural Curiosity in Ireland, and, indeed, the most sublime specimen of the kind that has yet been discovered, is the GIANT'S CAUSEWAY, and the adjacent columnar promontories. This Causeway, which forms only a part of the basaltic productions in its vicinity, is a mole stretching from the base of a steep promontory, several hundred feet into the sea, and is composed of a multitude of perpendicular columns in contact with each other, forming a vast mass of rock, which resembles a solid honey-comb. The pillars are prismatic, the number of sides varying, from four to eight; hexagonal prisms, however, are most numerous. Upon a closer inspection, each pillar is found to consist of various pieces, connected together by well-formed joints. The articulation is extremely compact, each part having a convex termination fitting into a concave socket in the next. The sides of the same column are of different breadths; but those of the contiguous pillars are invariably formed so as to leave no space between them. The metallic substance which enters into the composition of these columns having been corroded by exposure to the atmosphere, the earthy part alone remains, which leaves the outside of them soft. Between the promontory of Bengore and the Causeway, there are ranges of pillars of different forms, which have acquired distinct names, as the Giant's Chair, the Giant's Organ, Loom, &c.

The Causeway is not a lofty object, as some have supposed, for the pillars of which it is composed seldom exceed thirty feet above the surface of the sea at high tide, and much of it is then completely covered. The whole number of columns has, on a moderate computation, been estimated at 30,000. Some writers, indeed, have stated them at 100,000. *See the annexed plate.*

Near the same place there is also an extensive cavern, which, by some travellers, has been compared to the inside of a splendid cathedral.

Not only the Giant's Causeway, but a great part of this coast, which is composed of an alternation of bays and projections, is basaltic. Among the most striking are the bold promontories of Bengore and Fair Head. The former is about nine miles, nearly west of Ballycastle, and the latter fourteen miles east of Ben-

The Spanish Embassy in London



gore. Both are magnificent objects: abrupt towards the sea, and exhibiting vast specimens of columnar basalt; in which all the regularity and elegance of art seem to be combined with the wild magnificence which alone belongs to nature.

Cape Bengore consists of several inferior Capes, the most perfect and interesting of which is *Cape Pleaskin*. Ten or twelve feet from the summit, the rock begins to assume a columnar appearance, and presents a range of massy and perpendicular pillars, which resemble a magnificent gallery or colonnade, exceeding sixty feet in height, and resting on an irregular basis of black rock. Below this great bed of stone stands a second range of columns, not so high, but more perfectly formed than the upper one. These rest upon a stratum of red ochre stone, which, by its contrast, shows the incumbent colonnade to great advantage. These two admirable galleries, with the interposing rock, form a height of about 170 feet. The promontory is in many places clothed with grass, and from its base the ground slopes to the sea through a fall of nearly 200 feet. The whole, therefore, forms an elevation of nearly 400 feet perpendicular, which, for variety and beauty, for magnitude of objects, with elegance and novelty of arrangement, is unrivalled.

Fair Head, which forms the eastern limit of Ballycastle Bay, rises to about the same height above the sea, and presents a vast mass of rude gigantic columns, some of which exceed 150 feet in height. At the base of these lies a wide-extended waste of natural ruins, which the dilapidating hand of time has dislodged from their primitive positions. These massive bodies have occasionally withstood the shock of their fall, and frequently form groups, resembling artificial ruins, which give a striking and singular character to the surrounding landscape. A dark grey uniformly shrouds the rocky precipice, which is scarcely enlivened with a single vestige of vegetation, while at its foot, the ocean rolls with tremendous fury, and diffuses an air of terrific grandeur over the wrecks of the falling mountain.

Other curious rocks and caverns occur in the same part of the island, but they are lost in the majesty of the stupendous phenomena already described. Near Ballycastle is the remarkable rock called Carriek-a-Rede, which is a vast mass of basalt, separated from the coast by a chasm sixty feet wide, and eighty-four deep, over which is thrown a rope bridge. For this purpose, large iron rings are firmly fixed into the top of the rock on each side, to which two ropes are fastened, and stretched tight across the chasm. These ropes are likewise connected together by cross stays, like the rounds of a ladder, on which boards are laid to form a path. A third rope also runs across the chasm, but elevated about two feet and a half above the others, so as to be held while crossing. As the rock is much frequented in the fishing season, and is the only approach on the land side, men, women, and children repeatedly pass over the bridge with large baskets of fish on their heads with apparent unconcern, though serious accidents have sometimes happened.

The Bog of Monela, in the county of Tipperary, also presents an interesting natural curiosity. "It is described as exhibiting the three distinct strata of forest, arranged in a very palpable and rather remarkable manner. Stumps of trees rise in many places above the surface of the Bog, forming the upper range; and the depth of ten or twelve feet below them is a range of large trunks, lying horizontally; then comes another stratum of turf as deep as the former, and below, stumps of trees standing perpendicularly like those on the surface." It thus presents a succession of three distinct woods, one above another, the last of which tradition reports to have flourished as late as the eleventh century.

Among the Natural Curiosities of Ireland should be mentioned a small lake on the north of Lough Erne, that produces a species of trout, having a hard fleshy substance like the gizzard of a fowl. These, when opened, are frequently found to contain a number of extremely small and delicate shells.

CHAPTER VIII.

Islands, Colonies, and Settlements.

THE ISLANDS belonging to Ireland are of much less importance than those of either England or Scotland; a few of the principal, however, deserve notice. The chief Islands off the northern coast are Raghlin, or Rathlin, Inistrahull, and Tory Isle.

RAGHLIN is situated off the promontory of Fair-head, the channel which separates them being about seven or eight miles wide. Its shape is nearly that of a half horse-shoe, with one point turned towards the east, and the other to the south. Its length, from one extremity to the other, is six or seven miles, and its breadth about one mile. The soil of the eastern part is barren; but as the coast contains several convenient harbours and creeks, the chief support of the inhabitants is derived from fishing. The western regions are mountainous, though they present many fertile and well-cultivated vallies. Hence, agriculture is the principal support of the population in that part of the island. Barley is the chief grain, and a breed of small sheep, which are fed on the hills, supply them with excellent mutton; but their greatest wealth arises from the fishery, and the burning of kelp. The export of this latter article amounts to about one hundred tons annually, which are principally burnt by the women and children. The number of inhabitants in the whole island is about 1200. Some parts of the coast are columnar, and the pillars lie in various directions. At Doon-Point, which is a small promontory at the east end, the arrangement of the columns has great similarity to the bending pillars at Staffa, already described. They differ from those of the Giant's Causeway, which are all upright. As Raghlin was anciently a kind of stepping-stone between Scotland and Ireland, it became a place strongly contested, and still presents monuments characteristic of the scenes of which it was the theatre. Robert Bruce's castle, celebrated for the defence which that hardy warrior maintained in it, is visible at the northern angle of the island.

INISTRAHULL is situated nearly in the same latitude, but west of Raghlin, and near Malin-head, the most northern point of Donegal. It is comparatively small, but high and rocky, presenting the rugged features of the opposite coast.

TORY ISLE, sometimes called Innistory, lies off the north-west coast of the same county. Between it and the shore a chain of small rocky islets stretches to a considerable distance. It is much inferior in size to Raghlin, and being situated further from the coast is seldom visited.

The eastern coast of Ireland contains very few islands, and they are not only small but of little consequence, either in an agricultural or commercial point of view. The principal of them are Copland Isles and Lambay Isle.

THE COPLAND ISLANDS are a small group, situated off the coast of Down, nearly opposite Donaghadee. One of them contains a few cabins, principally inhabited by fishermen, and another a light-house, erected for the safety of vessels sailing along that part of the coast.

LAMBAY ISLE is a few miles north of the peninsula of Howth. It is small but well stocked with rabbits and sea-fowls. There is also a fishery for oysters and lobsters along the coast, and a little kelp is burnt on the shores.

The south side presents Saltee Islands, Clare Island, and Bear Island, with a few others of less note.

SALTEE ISLANDS are opposite the south coast of Wexford, but they do not possess any thing remarkable.

CLARE ISLAND, off the southern point of Ireland, is about three miles and a half long, and one broad. On a rock, near its north-west extremity, there is a stone in the form of a rude cross, supposed to have been erected by St. Kieran, which was anciently much resorted to by pilgrims on the 5th of March, the festival of that saint. But the island has now become more remarkable for its southern promontory, called cape Clear, than for any other natural object.

BEAR ISLAND is situated on the north-west side of Bantry Bay, and is about six miles long and nearly two broad. Its surface is rugged and hilly, and batteries have been erected on it for the defence of the Bay. It is about twelve miles distant from the town of Bantry.

The western coast of Ireland, like all those that are exposed to the tempestuous fury of an extensive ocean, presents more numerous groups of islands than the other sides. Having coasted round the south-west promontory, Valentia Island and the Blasket Isles present themselves. These are succeeded by South Arran Isles, in Galway Bay; Innis Baffin, Innis Ture, and Clare Island, at the entrance of Clew Bay; and Achill Island and North Arran Islands, still further to the north.

VALENTIA ISLAND is at the southern entrance of Dingle Bay, and near the shore, being a few miles below the town of Cahir. It is similar, both in size and shape, to Bear Island, but has its narrow end turned in the opposite direction.

The **BLASQUES**, or **BLASKET ISLANDS**, are situated off the promontory that bounds the northern side of the same Bay. The largest island of this group is about three miles long, but less than one broad. The others are all smaller, and many of them merely barren rocks.

The **SOUTH ARRAN ISLES** lie opposite the entrance of Galway Bay, and extend about 13 miles in length from north-west to south-east. The largest of these islands is about seven miles in length and two in breadth, and the distance of the extremity of this chain from the nearest shores of Clare and Galway is about three leagues. They are inhabited, and abundantly fruitful, but their population appears not to have been ascertained.

INNIS BAFFIN, **INNIS TURE**, and **CLARE ISLAND** are all nearly in a right line, stretching from south-west to north-east, and are passed by vessels entering Newport from the south. The first is very irregularly shaped, much indented with bays and promontories, and accompanied by numerous rocky islets. Clare island is the largest and the most important, lying immediately opposite the entrance of Clew Bay, and forming its chief shelter from the waves of the Atlantic. It is about four miles long, and one mile and a half broad. Its soil and fertility resemble those of the opposite shore of Mayo.

ACHILL ISLAND, the largest of the Irish Islands, is separated from the coast of Mayo by a narrow channel, and is about 12 miles long, but little more than six broad. Its shape is irregular, and appears like two long islands joined together on the north, and stretching from south-east to south-west. This island consists principally of lofty hills, but the lower parts are fertile, and it has several good harbours.

The **NORTH ARRAN ISLES** are still further north, opposite the central part of the western coast of Donegal, and are only distinguished as being the principal group off that coast.

The other Islands are all too insignificant to require enumeration. The

COLONIES and SETTLEMENTS are necessarily included under those heads in the account of England.

CONCLUSION.—We cannot, and perhaps we ought not to, take leave of the BRITISH EUROPEAN DOMINIONS without a few concluding remarks. We have already endeavoured to sketch Britain as she appears among the principal actors in the great Political Drama of the world; and have given general views of the MANNERS and CUSTOMS of those communities of which her population is composed. A brief summary is, therefore, all that remains.

The Union of England and Scotland, was not only a real increase of political strength, but it freed each from the rivalry of the other, and precluded that collision of interests, of which foreign enmity so often availed itself to widen the breach between the two countries. The subsequent Union of Ireland with Great Britain was also productive of similar effects. Each of these events contributed to that strength and stability for which the British monarchy is now so pre-eminently distinguished.

The basis upon which this political fabric, which is not less solid in its structure than splendid in its appearance, reposes, is the freedom of the constitution and the moral feeling of the people. The one cherishes that mental activity, that independence of opinion, and that deep tone of thinking, which the other consecrates to the dearest interests, and the most sacred relations of life. To this end the freedom of the press has greatly contributed; for by it the deductions of experience are widely diffused, and the golden maxims of practical wisdom universally disseminated. A habit of close examination is thus generated, the springs of national prosperity are laid open, the actions of her rulers investigated, and public opinion clearly expressed. Hence, if knowledge be power, and truth be knowledge, Britain stands upon elevated ground, and possesses advantages not enjoyed by any rival state. A strict attention to these internal sources, with a firm adherence to that integrity, probity, honour, and benevolence which have so eminently distinguished her transactions with other nations, can scarcely fail to make her institutions, (and they comprise her political existence) as imperishable as her own sea-girt isles. While harmony reigns within, and Britain is true to herself, the rage of her enemies, like the violence of the waves that beat against her shores, will only recoil upon themselves; for it has been well observed by a foreigner, in recommending Britain as a model to his own country, that, “however the superstructure may be time-worn, or over-run by abuses, there must be something solid in the basis, admirable in the materials, and stable in the structure of an edifice, that has so long towered unshaken amidst the tempests of the world.”

CHAPTER IX.

Statistical and Synoptical Tables.

TABLE I.

VALUE of IMPORTS into IRELAND from all parts of the World, calculated at the Official Rates of Valuation, as laid before the House of Commons, and ordered to be printed, 2d April, 1819.

SPECIES OF IMPORTS.	Years ending 5th January								
	1817.			1818.			1819.		
	£	s.	d.	£	s.	d.	£	s.	d.
Ashes, Barilla, Pearl, & Pot. .	113,530	19	3	116,511	7	11	134,238	2	1 $\frac{3}{4}$
Bark, Oak	33,120	11	0	42,601	4	11	44,823	13	10 $\frac{1}{4}$
Blankets	3,108	0	0	3,366	0	0	3,865	16	11 $\frac{1}{4}$
Carpets and Carpeting	5,073	13	10	13,306	1	3	13,762	15	6 $\frac{1}{2}$
Coals	458,799	4	7	493,607	8	6	435,491	2	8 $\frac{1}{4}$
Cottons, plain and coloured. .	83,823	10	10	139,529	9	9	223,451	4	7 $\frac{1}{2}$
Drapery, New	63,025	0	10	105,339	18	6	100,772	14	9 $\frac{1}{4}$
—, Old	495,805	9	6	813,680	10	9	884,551	3	6 $\frac{1}{2}$
Earthenware	52,307	14	11	55,606	11	8	71,307	18	3
Fish, Herrings.	55,533	4	7	58,197	4	7	86,998	3	1
Flax Seed	201,752	6	2	93,982	3	1	149,711	10	9 $\frac{1}{4}$
Flax, undrest	725	6	1	4,366	7	8	3,288	2	3 $\frac{3}{4}$
Groceries, Sugar, Loaf	127,262	15	5	152,118	0	0	152,389	7	8 $\frac{1}{4}$
—, Muscovado	544,513	3	1	508,871	11	11	555,645	9	2 $\frac{3}{4}$
—, Tea	282,926	11	9	294,188	4	5	335,691	8	3 $\frac{3}{4}$
Haberdashery, all kinds of. .	73,804	8	8	76,210	0	11	108,666	5	5 $\frac{1}{2}$
Hats.	25,224	4	7	25,765	12	5	31,286	1	6 $\frac{1}{2}$
Hemp, undrest.	6,726	15	3	16,435	8	6	21,443	9	6
Hides, tanned and untanned .	45,539	13	10	46,066	9	3	38,005	10	9 $\frac{1}{4}$
Hops	59,280	0	0	28,396	3	1	63,005	15	4 $\frac{1}{4}$
Hosiery, Cotton Stockings. .	31,336	9	7	35,791	6	10	54,273	3	8 $\frac{1}{2}$
Iron, unwrought	133,058	4	4	183,986	15	5	207,028	0	3 $\frac{3}{4}$
Iron and Hardware.	160,323	17	9	154,990	13	11	197,355	1	2
Salt	37,337	14	11	45,738	2	6	43,428	9	5 $\frac{1}{4}$
Silk, organzine	37,002	6	2	18,994	12	4	29,521	7	8 $\frac{1}{4}$
Spirits, Foreign	6,904	18	4	15,242	10	10	4,563	16	7 $\frac{1}{2}$
Tallow	20,751	4	7	18,550	0	9	19,584	10	4 $\frac{3}{4}$
Tobacco	116,586	11	6	103,056	13	10	138,171	11	1
Watches & Watch-movements	17,856	12	8	5,181	11	6	12,692	14	3
Wine	73,318	15	4 $\frac{1}{2}$	47,642	13	3	74,478	2	0 $\frac{1}{4}$
Wood, Deals	18,141	10	8	11,731	9	5 $\frac{1}{2}$	19,983	6	8 $\frac{3}{4}$
—, Staves	12,666	0	0	9,932	11	11	8,624	14	0
—, Timber.	82,246	14	7 $\frac{1}{2}$	50,375	15	5	84,953	3	4 $\frac{1}{4}$
Wool, Cotton	73,752	18	6	81,512	15	5	113,019	13	10 $\frac{1}{4}$
Yarn, Cotton, & Cotton Twist	37,623	14	10	56,345	3	11	89,699	3	10 $\frac{1}{2}$
Other Merchandize	1,082,954	16	6	1,716,957	0	1	1,542,947	7	6 $\frac{1}{2}$
Total Official Value of Imports into Ireland, from all parts of the World	£4,693,745	4	6	£5,644,175	16	5 $\frac{1}{2}$	£6,098,720	2	7 $\frac{1}{2}$

TABLE II.

An Account from the 1st January, 1819, to the 1st January, 1820, of all COALS Imported into IRELAND, specifying the Ports to which they are brought, ordered, by the House of Commons, to be printed, 1st June, 1820.

Ports to which brought.	Quantity Imported.	Ports to which brought.	Quantity Imported.	Ports to which brought.	Quantity Imported.
	Tons.		Tons.		Tons.
Baltimore	825	Dublin	273,596	Newry.....	20,533
Ballyraine	1,326	Dundalk	12,698	Ross	5,655
Belfast	77,704	Galway	5,095½	Sligo	5,492
Clare	98	Killybegs	368	Strangford	12,307
Coleraine	412	Kinsale	11,706	Waterford	50,718
Cork	03,331	Larne	9,786	Wexford	12,339
Dingle.....	183½	Limerick.....	16,347	Wicklow	6,543
Donaghadee	604	Londonderry	10,716	Youghall.....	25,692
Drogheda	23,746	Newport.....	1,063½		
				Total.....	688,88

Custom-House, Dublin, }
19th May, 1820.

W. MARRABLE,
Inspector General Imports and Exports.

TABLE III.

VALUE of Foreign and Colonial Merchandize, EXPORTED from IRELAND, to all parts of the World, calculated at the Official Rates of Valuation, as laid before the House of Commons, and ordered to be printed, 2d April, 1820.

SPECIES OF EXPORTS.	Years ending 5th January								
	1817.			1818.			1819.		
	£	s.	d.	£	s.	d.	£	s.	d.
Ashes, Barilla, Pearl and Pot	2,246	10	10	10,498	16	11	1,887	5	2½
Coffee	24,387	13	10	12,129	4	8	9,841½	14	7½
Drugs	1,395	10	5	1,346	2	6	330	17	2½
Dye Stuffs, Logwood	1,431	0	0	192	15	5	5,483	1	6½
Flax Seed	19,783	7	9	17,216	6	2	6,704	6	1½
Groceries, Sugar, Muscovado	3,375	0	0	672	18	5½	44	13	1
Hides, untanned.....	123	1	7	1,100	6	2	—	—	—
Spirits, Foreign	6,565	6	5	8,823	12	0	1,936	18	9
Tallow	612	0	0	2,592	6	11	824	3	10
Tobacco	23,004	19	9	13,655	6	6	14,752	15	4½
Wine	30,856	13	4	37,926	5	10	17,290	17	11
Wool, Cotton	7,628	6	3	3,793	16	11	2,880	0	0
Other Merchandize	44,459	14	6	40,624	9	5	22,101	16	0
Total official value of Foreign and Colonial Merchandize, Exported from Ireland, to all parts of the World	£165,869	4	8	£150,562	7	10½	£84,078	9	8½

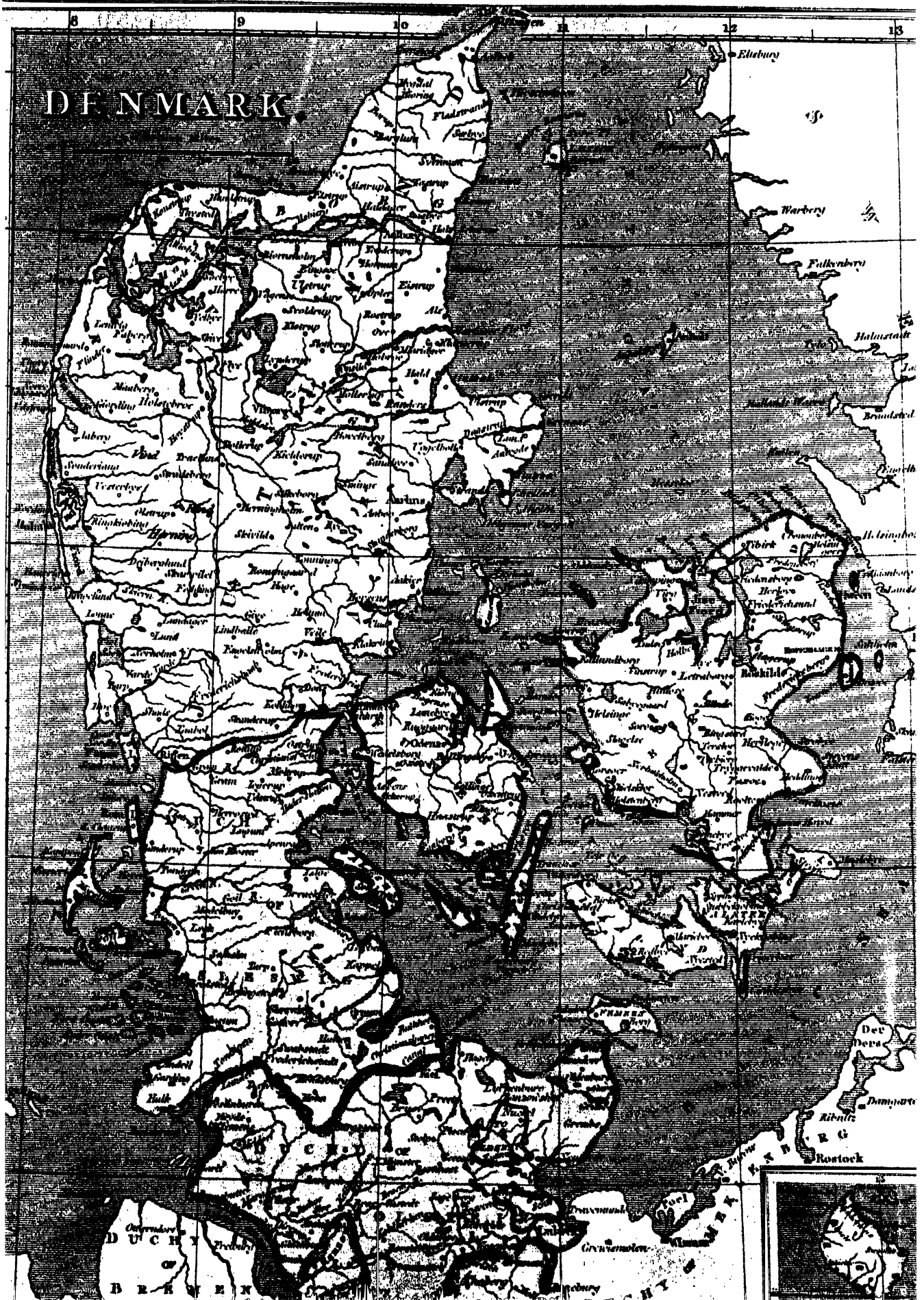


TABLE IV.

Official Documents relative to the BALTIC TRADE, as ordered, by the House of Commons, to be printed, 8th of June, 1820.

1. An Account of MANUFACTURED GOODS Exported from *Ireland* to the Coast of the *Baltic*, in the last Five Years.

Manufactured Goods Exported.	Years ending 5th January				
	1816.	1817.	1818.	1819.	1820.
Cotton goods, Calico, white or plain. yards	2,451	—	—	—	—
—, Muslin, white or plain. yards	236	—	—	—	—
Drugs value	—	125 6 0	—	—	—
Earthenware value	—	—	—	14 8 6	30 0 0
Fish, Herrings barrels	90	—	—	—	—
Glass value	—	—	—	—	100 0 0
Haberdashery Ware value	—	—	—	63 13 0	—
Hides, Tanned No.	20	—	—	—	—
Iron and Hardware value	—	317 15 0	—	—	—
Salt, White bushels	16,625	—	7,960	31,460	140,633
Soap cwts.	—	—	—	—	30 0 0
Spirits, Rum gallons	244	—	—	228	—
Sugar, Loaf c. qrs. lbs.	323	—	—	9 0 14	—
—, Muscovado cwts.	339	—	—	—	—
Wine, Spanish tun. hhd. gall.	122 2 0	9 0 42	—	—	—
—, Madeira tun. hhd. gall.	—	2 1 21	—	—	—
Miscellaneous Articles value	173	55 0 0	41 0 0	50 8 0	—

2. Account of the Amount of DUTY on the Importation of TIMBER and IRON from the Coasts of the *Baltic* into *Ireland*; for the last Five Years, distinguishing each Year.

		Timber.			Iron.		
		£	s.	d.	£	s.	d.
Years ended 5th January	1816	39,559	7	7	10,781	2	5
Do.	1817	22,408	19	10	4,532	4	3
Do.	1818	29,210	17	11	3,952	1	2
Do.	1819	25,121	8	3	7,092	4	4
Do.	1820	29,179	19	7	7,272	19	7½

Inspector General's Office of
Imports and Exports,
Custom House, Dublin, 3d June, 1820.

W. MARRABLE,
Inspector General Imports and Exports.

TABLE V.

VALUE of the Produce and Manufactures of the United Kingdom, EXPORTED from IRELAND, to all parts of the World, as computed at the average Prices Current. Ordered, by the House of Commons, to be printed, 2d April, 1820.

SPECIES OF EXPORTS	Years ending 5th January								
	1817.			1818.			1819		
	£	s.	d.	£	s.	d.	£	s.	d.
Aqua Vita	43,027	19	9	8,847	13	4	9,131	17	6
Bacon	469,054	18	6	563,246	1	1	749,867	15	9
Beef	171,748	6	2	443,587	4	0	390,387	9	7
Bread	12,589	16	11	19,327	9	6	10,417	12	4½
Bullocks and Cows	201,168	13	9	288,927	15	0	393,233	12	6
Butter	1,430,589	6	0	1,770,633	17	3	2,383,817	11	6½
Candles	58,536	3	1	70,949	1	4	47,661	6	3
Copper Ore	7,153	17	0	6,571	3	4	10,825	16	3
Corn, Barley	102,814	3	0	63,453	18	6	45,434	0	6
—, Oats	587,417	14	1	807,125	7	10	328,560	10	0
—, Wheat	335,690	1	4	163,436	2	0	307,165	8	0
Cotton Goods	97,568	6	9	53,312	6	4	33,687	19	8½
Drapery, new	1,913	11	7	1,402	12	6	1,244	2	0
—, old	36,974	15	11	26,747	1	11	14,267	14	3
Earthenware	2,146	3	10	893	10	9	1,344	0	8½
Feathers	35,554	6	7	27,669	8	11	66,616	17	6
Fish, Herrings	3,806	2	8	753	2	8	3,024	8	6
Flax, drest and undrest	65,239	14	6	126,930	18	2½	128,645	13	6½
Glass	23,763	19	9	22,249	7	7½	10,836	3	1
Hides, untanned	47,776	12	4	128,842	11	6	74,507	11	0
Hogs	104,214	12	0	67,759	19	0	91,027	5	4
Hogs' Lard	46,556	19	1	50,802	14	4½	75,840	18	2½
Kelp	5,972	17	9	7,401	7	6	23,915	1	1
Linen, plain	3,596,792	6	8	4,649,275	17	9½	4,286,721	6	4½
—, coloured	9,322	6	10	6,991	10	10	6,632	3	5½
Linen and Cotton, mixed manufacture	50	6	2	1,279	19	8			
Meal, Flour	98,064	15	0	21,312	6	2	57,389	6	11½
—, Oat	25,121	11	0	34,649	1	4½	15,646	19	2½
Pork	299,998	2	0	524,516	11	0	539,949	1	3
Rape Seed	5,697	4	7	15,030	12	5	11,591	16	8
Sheep, alive	47,745	13	10	52,323	9	0	38,671	4	0
Soap	26,361	18	6	24,185	4	7½	17,672	9	3½
Skins, Calf	41,690	0	0	40,501	7	8	20,389	12	0½
Tallow	552	9	3	8,835	18	5½	8,627	6	9
Tongues	4,712	14	6	8,553	11	0	11,207	6	0½
Wool, Sheep	40,731	8	4	58,617	12	0	66,514	11	0
Yarn, Cotton	36,052	8	8	30,698	8	11	13,588	13	4
—, Linen	74,960	12	8	79,149	8	9	77,088	4	3½
—, Worsted	6,655	16	11	27	13	4	72	11	4
Other Merchandize	305,188	4	2	249,506	0	8½	266,637	5	8
Total Real Value of the produce and manufactures of the United Kingdom, Exported from Ireland to all parts of the World.	8,510,977	1	5	10,526,325	8	0½	11,776,860	14	9½

TABLE VI.

Official Accounts relating to LINEN, HEMP, and FLAX, laid before Parliament, and ordered, by the House of Commons, to be printed, 31st May, 1820.

As Linen is the staple manufacture of Ireland, and with the growth and preparation of Hemp and Flax, give employment and support to so many of the inhabitants of that country, any official documents, tending to illustrate its present state, cannot fail of being interesting to many of our readers; and we are happy in being able to present the following from a source so indisputable, and from an authority so high, as the British Legislature.

1.-- *An Account of the Amount paid in BOUNTIES on IRISH LINENS, exported from Ireland during the last ten years, up to the 5th of January, 1820; distinguishing the year, and the number of yards, on which the Bounty was paid. Ordered, by the House of Commons, to be printed, 31st May, 1820.*

Years ended 5th January	Irish Manufacture.				Years ended 5th January	Irish Manufacture.			
	Total Quantity on which Bounty was paid.		Amount of Bounty paid.			Total Quantity on which Bounty was paid.		Amount of Bounty paid.	
	Yards.		£	s. d.		Yards.		£	s. d.
1811	1,761,486		12,355	10 9	1816	2,747,675		18,494	15 4½
1812	1,240,518		8,130	8 6	1817	1,903,704		12,750	16 1
1813	1,922,357		12,824	9 4	1818	3,408,940		23,127	4 5
1814	2,505,773		16,178	0 9	1819	4,600,384		31,078	8 11
1815	2,723,620		18,229	7 7	1820	2,579,755		17,348	12 0

2.—*An Account of the quantity of LINEN YARN, Imported into Ireland, during the last ten years, prior to the 5th January, 1820, with the Amount received as duty on the same, distinguishing each year.*

Years ended 5th January	Quantity Imported.			
	British.	Foreign.	Total Imported.	Amount of Duty.
	Lbs.	Lbs.	Lbs.	£ s. d.
1811	6,471	—	—	—
1812	4,952	—	—	—
1813	8,518	—	—	—
1814	111	—	—	—
1815	13,802	—	—	—
1816	500	—	—	—
1817	1,400	—	—	—
1818	6,160	—	—	—
1819	11,615	—	—	—
1820	10,409	1,036	11,445	10 6 0

Note.—British Linen Yarn is free on Importation into Ireland.

3.—*An Account of all the FOREIGN HEMP and FLAX, Imported into Ireland, during the last ten years, ending the 5th of January, 1820, distinguishing each year, and dressed from undressed.*

Years ended 5th January	Flax.						Hemp.					
	Dressed.			Undressed.			Dressed.			Undressed.		
	Cwts.	qrs.	lbs.	Cwts.	qrs.	lbs.	Cwts.	qrs.	lbs.	Cwts.	qrs.	lbs.
1811	26	1	21	28,663	0	0	—	—	—	30,290	0	14
1812	6	0	0	3,062	1	0	—	—	—	22,437	0	0
1813	3	1	0	1,145	0	0	—	—	—	21,792	0	0
1814	4	0	0	4,336	0	0	—	—	—	29,565	0	0
1815	2	0	0	2,838	0	0	—	—	—	30,708	0	0
1816	14	0	0	247	0	0	—	—	—	25,621	0	0
1817	—	—	—	449	0	0	—	—	—	9,403	0	0
1818	—	—	—	2,703	0	0	—	—	—	22,974	0	0
1819	0	3	4	2,035	2	0	—	—	—	29,974	3	0
1820	—	—	—	4,839	1	7	—	—	—	28,398	1	3

4.—An Account of the OFFICIAL and ACTUAL VALUE of Irish MANUFACTURED LINEN, Exported during the last ten years, ending 5th January, 1820 from Ireland.

Years ended 5th January	Cambrick.						Plain White.					
	Official Value.			Actual Value.			Official Value.			Actual Value.		
	£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.
1811	218	10	0	240	7	0	2,456,464	14	8	4,375,557	16	1½
1812	354	0	0	389	8	0	2,092,856	6	8	3,073,892	14	9½
1813	222	15	0	267	6	0	2,385,844	14	8	4,026,112	19	9
1814	11	5	0	13	10	0	2,599,625	8	0	4,224,391	5	6
1815	52	15	0	63	6	0	2,864,270	18	8	5,280,909	10	8
1816	—	—	—	—	—	—	2,892,248	16	0	5,061,435	8	0
1817	0	15	0	0	15	0	3,041,190	5	4	3,896,525	0	7
1818	24	0	0	32	10	0	3,718,042	7	11½	5,034,849	1	8
1819	32	10	0	32	5	5	3,387,039	1	4	4,643,948	1	11
1820	—	—	—	—	—	—	2,499,053	9	4	3,044,220	11	7

Years ended 5th January	Coloured.						Canvas.					
	Official Value.			Actual Value.			Official Value.			Actual Value.		
	£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.
1811	3,697	10	0	2,879	16	8	—	—	—	—	—	—
1812	2,416	19	0	1,903	3	8	—	—	—	—	—	—
1813	3,655	5	6	4,873	14	0	—	—	—	—	—	—
1814	2,149	11	6	2,866	2	0	—	—	—	—	—	—
1815	165	6	0	220	8	0	—	—	—	—	—	—
1816	576	12	0	768	16	0	—	—	—	—	—	—
1817	7,574	8	0	10,099	4	0	—	—	—	—	—	—
1818	8,989	0	9	7,541	13	5	1,373	17	5	1,594	13	4
1819	6,425	18	6	7,184	17	0	1,786	4	6	2,073	5	11
1820	8,837	18	6	8,510	11	10	1,364	6	0	1,583	11	3

Custom House, Dublin, }
19th May, 1820. }

W. MARRABLE,
Inspector General Imports and Exports.

TABLE VII.

An Account of the ORDINARY REVENUES and EXTRAORDINARY RESOURCES, constituting the Public Income of Ireland;—For the year ended the 5th of January, 1819. Ordered, by the House of Commons, to be printed, 29th March, 1820.

HEADS OF REVENUE.		Gross Receipt within the Year.		
ORDINARY REVENUES.		£	s.	d.
Customs		2,211,826	8	6½
Excise		2,153,651	0	6
Stamps		539,998	13	3½
Taxes		397,088	1	2½
Post Office		177,833	0	11½
Poundage Fees		4,100	4	10½
Polls Fees		820	1	0½
Casualties		3,657	8	8½
Treasury Fees, and Hospital Fee		1,283	4	8½
Total of Ordinary Revenues.....		5,520,258	3	10½
EXTRAORDINARY RESOURCES.				
From several County Treasurers, per the Receiver General, on account of advances made by the Treasury for improving Post roads in Ireland.....		39,210	19	7
From several County Treasurers, per the Receiver General, on account of advances made by the Treasury for Building GAOLS		18,272	15	11
From several County Treasurers, per the Receiver General, on account of Advances made by the Treasurer under the POLICE ACT of 54 Geo. III.....		21,314	3	0½
Other monies paid to the Public.....		122,575	1	10
Total Public Income of Ireland.....		5,721,231	4	3

APPROPRIATED DUTIES FOR LOCAL OBJECTS.

	Gross Receipt within the Year.		
	£	s.	d.
Improvement of Dublin	11,124	12	6½
Repairs of the Royal Exchange, and Commercial Buildings	1,785	6	11
Lagan Navigation	5,838	7	3½
Inns of Court	1,882	0	0
Light-houses	23,588	4	7½
Dunleary Harbour	8,444	12	9½
Waterford Harbour	1,436	4	9
Total of Appropriated Duties for Local Objects.	54,099	8	11
Total Including the Appropriated Duties. ..	5,775,730	13	2

TABLE VIII.

An Account of the NET AMOUNT of the Revenue of Ireland, paid into the Exchequer during the years 1818 and 1819, and up to the 5th April, 1820. Divided into the several Quarters, and classed under the several Branches thereof;—In British Currency. Ordered, by the House of Commons, to be printed, 16th June, 1820.

Branches of Revenue.	Quarter to 5th April 1818.			Quarter to 5th July 1818.			Quarter to 10th Oct. 1818.			Quarter to 5th January 1819.			YEAR 1818.		
	£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.
Custom Duties	301,513	13	5½	435,783	17	0	448,954	9	9½	449,218	4	5½	1,635,470	4	8½
Excise	536,372	7	1	443,851	19	3	410,287	17	5	442,761	12	9½	1,833,473	16	6½
Assessed Taxes	40,031	2	7½	1,548	13	7½	216,804	10	5	84,231	0	6	342,615	7	2½
Quit Rents	8	9	2½	4	4	3½	160	12	3½	55	10	0½	228	16	4½
Stamp Duties	142,430	17	2½	124,021	13	4½	102,996	2	4½	139,590	11	6	509,039	4	5½
Postage	2,769	4	7½	10,153	16	11	14,769	4	7½	18,461	10	9½	46,153	16	11
Collectors' Balances	215	7	8½	1,065	2	11½	—	—	—	541	13	8½	1,822	4	3½
Poundage Fee ..	943	16	4	1,079	14	9½	1,044	4	5½	1,032	9	4	4,100	4	10½
Pells Fee	188	15	3½	215	19	0½	208	16	10½	206	9	9½	820	1	0½
Treasury Fees ..	177	14	5½	386	9	7½	415	6	4½	262	4	0	1,241	14	3½
Hospital Fee	9	11	2½	15	18	0	7	5	7	8	15	7	41	10	4½
Casual Revenue	710	16	1½	2,144	12	7½	34	8	2½	767	11	8½	3,657	8	8½
Ordinary Revenue ...	1,025,571	15	3	1,020,272	1	6½	1,195,682	18	5	1,137,137	14	7½	4,378,664	9	10
Imprest Monies repaid, &c.	34,481	2	10	38	42	18	90,510	19	3	38,478	18	4½	202,313	18	6½
Total	1,060,052	18	1	1,059,114	19	7½	1,286,193	17	8	1,175,616	13	0	4,580,978	8	4½

Branches of Revenue.	Quarter to 5th April 1819.			Quarter to 5th July 1819.			Quarter to 10th Oct. 1819.			Quarter to 5th January 1820.			YEAR 1819.			Quarter to 5th April 1820.		
	£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.
Custom Duties	313,660	10	6½	412,317	11	9½	416,777	2	9½	371,504	8	5	1,514,259	13	6½	282,158	11	8½
Excise	480,905	11	6½	398,880	15	7	359,043	8	8½	466,498	14	11	1,705,328	10	9½	422,671	17	8½
Assessed Taxes	6,727	3	4½	141,137	8	1½	92,098	6	10	40,187	11	11½	280,150	10	4	7,615	10	4½
Quit Rents	—	—	—	12	12	6	—	—	—	52	16	11½	65	9	5½	—	—	—
Stamp Duties	137,194	12	11½	123,574	18	3½	94,251	10	5	127,448	11	3½	482,469	12	11	115,209	15	1
Postage	9,230	15	4½	11,076	18	5½	15,692	6	1½	17,538	9	5	53,538	9	2½	12,000	0	0
Collectors' Balances	581	7	6½	279	13	10½	88	12	3½	1,264	7	2½	2,214	0	10½	530	12	1½
Poundage Fee	1,015	11	8	1,041	18	6½	1,029	13	2½	1,140	3	10½	4,227	7	5½	1,001	17	9½
Pells Fee	203	2	4	209	7	7½	205	18	7½	228	0	8½	845	9	3½	200	7	7½
Treasury Fees	97	19	10½	211	10	10½	202	17	11½	108	7	4½	620	16	0½	114	17	0
Hospital Fee	9	3	8	13	16	0½	7	5	7	9	18	7½	40	3	11	8	11	4½
Casual Revenue	1,355	1	10½	1,426	9	2½	147	11	1	1,897	11	11½	4,826	14	0½	1,370	11	9½
Ordinary Revenue ...	950,981	0	8½	1,090,182	0	10	979,514	13	8	1,027,879	2	6½	4,048,586	17	9	842,882	12	7½
Imprest monies repd., &c.	39,463	3	0	41,618	6	1½	76,943	4	8½	45,291	16	1½	203,316	9	11	28,719	4	11½
Total	990,444	3	8½	1,131,800	6	11½	1,056,487	18	4½	1,073,170	18	8½	4,251,903	7	8	871,601	17	6½

Exchequer Office, Ireland, }
7th June, 1820.

RODEN,
Auditor General.

TABLE IX.

A Statement of the GRANTS voted by Parliament on account of Miscellaneous Services in IRELAND, in 1818 and 1819;—Of the Estimates for the like Services, laid before Parliament in 1820, and of the proposed Sums to be Voted there upon; with a comparative view of the Increase and Decrease under each head, in those Years. Ordered, by the House of Commons, to be printed, 21st June, 1820.

	Grant 1818.	Grant 1819.	Estimate 1820.	Propos. Grant 1820.	Grant less than Es- timate 1820.	Grant less than Grant 1818.	Grant more than Grant 1818.	Grant less than Grant 1819.	Grant more than Grant 1819.
	£	£	£	£	£	£	£	£	£
1. Protestant Charter Schools.....	38,331	24,000	29,283	24,000	5,283	14,331	—	—	—
2. Foundling Hospital	32,515	30,000	32,125	30,000	2,125	2,515	—	—	—
3. House of Industry	36,646	32,000	24,438	24,438	—	12,208	—	7,562	—
4. Richmond Lunatic Asylum	7,085	6,655	6,655	6,500	155	585	—	155	—
5. Hibernian Soc. for Soldiers' Children	3,530	9,200	9,165	9,000	165	—	5,470	200	—
6. Hibernian Marine Society	2,755	1,800	2,197	1,800	397	955	—	—	—
7. Female Orphan House	2,307	2,600	2,622	2,600	22	—	293	—	—
8. Westmoreland Lock Hospital	8,307	8,000	4,048	4,000	48	4,307	—	4,000	—
9. Lying-in-Hospital	3,148	3,300	3,305	3,000	305	148	—	300	—
10. Doctor Stevens's Hospital	1,467	1,400	1,448	1,400	48	67	—	—	—
11. Fever Hospital, Cork-street	4,615	4,600	4,615	4,600	15	15	—	—	—
12. Hospital for Incenrables	465	460	465	460	5	5	—	—	—
13. Roman Catholic Seminary	8,928	8,928	8,928	8,928	—	—	—	—	—
14. Association for Discountenanc. Vice	3,430	3,430	6,462	6,462	—	—	3,032	—	3,032
15. Green Coat Hospital, Cork	104	100	146	140	6	—	36	—	40
16. Cork Institution.....	2,307	2,300	2,300	2,300	—	7	—	—	—
17. Society for the Education of the Poor	5,538	5,538	5,538	5,538	—	—	—	—	—
18. Dublin Society	9,230	9,200	15,483	8,000	7,483	1,230	—	1,200	—
19. Board of First Fruits	9,230	9,230	9,230	9,230	—	—	—	—	—
20. Linen Manufacture	18,461	18,461	18,461	18,461	—	—	—	—	—
21. Wide Streets' Commissioners	19,938	19,938	19,938	19,938	—	—	—	—	—
22. Farming Society	11,076	11,000	12,725	11,000	1,725	76	—	—	—
23. Chairman Board of Inland Naviga.	4,015	3,000	3,170	2,500	670	1,515	—	500	—
24. Public Offices for Extra. Trouble ..	276	276	276	276	—	—	—	—	—
25. Board of Works	1,153	1,153	1,153	1,153	—	—	—	—	—
26. Stationery, &c. Chief Sec.'s Offices...	18,901	22,882	16,456	12,500	3,956	6,401	—	10,382	—
27. Printing Proclamations	20,809	20,684	19,825	19,000	825	1,809	—	1,684	—
28. Printing Statutes	9,692	9,692	9,692	9,500	192	192	—	192	—
29. Criminal Prosecutions	3,439	3,439	3,439	3,400	39	39	—	39	—
30. Apprehending Offenders	23,076	23,076	23,076	20,000	3,076	3,076	—	3,076	—
31. Non-conforming Ministers	2,307	1,000	1,500	1,000	500	1,307	—	—	—
32. Seceding Ministers	8,581	8,651	8,628	8,628	—	—	47	23	—
33. Protestant Dissenting Ministers	3,868	4,034	4,034	4,034	—	—	166	—	—
34. Salaries to Lottery Officers.....	756	756	756	756	—	—	—	—	—
35. Royal Irish Academy	1,764	1,741	1,718	1,718	—	46	—	23	—
36. Howth Harbour	323	300	300	300	—	23	—	—	—
37. Dunmore Harbour	5,000	6,700	6,440	6,440	—	—	1,440	260	—
38. Civil Contingencies	8,000	12,000	12,000	12,000	—	—	4,000	—	—
39. Inland Navigation.....	55,000	20,000	20,000	20,000	—	35,000	—	—	—
40. Canal from Lough Allen to the Shan,	5,475	4,480	3,450	3,450	—	2,025	—	1,030	—
Pratique Dublin Port	15,000	—	4,015	4,000	15	11,000	—	—	4,000
41. Clothing Battle Axe Guards	691	—	—	—	—	691	—	—	—
Clothing Heralds	—	683	378	378	—	—	378	305	—
Fever Expenses	—	1,071	—	—	—	—	—	1,071	—
Police of Dublin	—	10,000	—	—	—	—	—	10,000	—
Schools	—	26,600	27,468	26,000	1,468	—	26,000	600	—
New Bridewell, Dublin	—	3,000	3,000	3,000	—	—	3,000	—	—
Commissioners of Judicial Fees.....	—	1,000	—	—	—	—	—	1,000	—
	—	7,200	6,000	6,000	—	—	6,000	1,200	—
	£ 417,539	405,558	396,351	367,828	10,741	99,573	49,862	44,802	7,072

Total Decrease..... 37,730

Irish Office, London, }
21st June, 1820. }

C. W. FLINT.

TABLE X.

LATITUDES and LONGITUDES of the principal Cities, Towns, and other remarkable places in Ireland.

The candid Geographer is far from relying with the same confidence upon the Latitudes and Longitudes of Ireland, as he does upon those of Great Britain. In the latter, the Trigonometrical Survey has given all desirable accuracy to numerous points—in the former, no such operations have been carried on; and, indeed, the statements are generally allowed to be less certain for several of the western districts of that Island, than for many of the more remote Countries of Europe.

The Latitudes in Ireland are all *north*, and the Longitudes all *west*

Places.	Latitude.			Longitude.			Places.	Latitude.			Longitude.		
	°	'	"	°	'	"		°	'	"	°	'	"
Aghrim	53	15	0	8	40	0	Killarney	51	49	0	9	32	0
Antrim	54	43	0	6	6	0	Killough	54	13	0	5	45	0
Armagh	54	27	0	6	39	30	Killebegs	54	30	0	8	48	0
Athlone	53	22	0	7	41	0	Killyleagh	54	25	0	5	46	0
Ballynasloe	53	15	0	8	8	0	Kilmainham	53	20	0	6	7	0
Ballyshannon	54	53	0	7	50	0	Kinsale	51	41	0	8	31	50
Bantry	51	36	0	9	25	0	Leitrim	53	27	0	8	30	0
Belfast	54	46	0	5	57	30	Leixlip	53	21	0	6	11	0
Cape Clear	51	15	0	9	50	0	Liford	54	47	0	5	50	30
Carlow	52	48	0	7	19	0	Limerick	52	36	0	8	31	0
Carrickfergus	54	48	0	6	7	30	Lisburn	54	41	0	6	0	0
Carrick-on-Shannon	53	54	0	8	35	30	Lismore	52	8	0	7	7	0
Cashel	52	26	0	7	38	28	Londonderry	55	0	0	7	15	0
Cavan	54	51	41	7	23	0	Longford	52	42	0	7	45	0
Clare	52	52	0	8	51	30	Louth	53	54	0	6	26	0
Clonmel	52	14	0	7	27	0	Maryborough	53	0	0	7	2	0
Coleraine	55	10	0	7	0	0	Monaghan	54	16	0	6	49	0
Cork	51	53	54	8	28	15	Mullingar	53	31	0	7	18	0
Dingle	52	8	0	10	6	0	Newport	53	53	0	9	26	30
Donegal	54	42	0	7	47	0	Newry	54	15	0	6	25	30
Douglas	54	12	0	4	20	0	Omagh	54	38	0	8	41	50
Downpatrick	54	28	0	5	39	0	Philpstown	53	18	0	7	8	0
Drogheda	53	43	0	6	22	0	Rathmines	53	20	0	6	6	0
DUBLIN	53	21	0	6	15	0	Roscommon	53	31	0	8	25	0
Dundalk	54	12	0	6	23	0	Sligo	54	15	0	8	31	26
Elphin	53	46	0	8	20	0	Thomastown	52	30	0	7	10	0
Enniscorthy	52	32	0	6	35	0	Trillick	52	12	0	7	15	0
Enneskillen	54	24	0	8	35	27	Trim	53	32	0	6	53	30
Ferns	52	23	0	6	28	0	Tuam	53	28	0	8	35	0
Galway	53	15	0	8	58	0	Waterford	52	20	0	9	41	28
Kildare	53	4	0	6	57	30	Wexford	52	16	0	6	8	31
Kilerin	52	30	0	7	10	0	Wicklow	52	55	0	6	12	30
Kilkenny	52	35	0	7	15	0	Yonghall	51	59	0	7	46	0
Killala	54	12	0	3	0	0							
Killaloe	52	50	0	8	27	0							

EXCHANGES, MONEY, WEIGHTS, AND MEASURES.

The par of *Exchange* with England, is £108 6s. 8d. for £100 sterling; and as the Commerce between Ireland and the other European States is not extensive, the exchange is regulated by that of England. Foreign Bills on *Dublin, Cork, Waterford, &c.* are usually made payable on London. Accounts are kept in pounds, shillings, and pence, as in England.

CURRENT MONEY.

English.	Value.		
	£	s.	d.
The English Shilling	0	1	1
Guinea	1	2	9

The values of the other coins are in the same proportion; but the English silver is seldom seen except in Dublin, Cork, and a few other places, where the intercourse between the two countries is the most frequent.—The Irish *tenpenny-piece* is, therefore, to the English *shilling* as 10 to 13.

Irish.	Value.		
	s.	d.	
Silver piece, or Bank Token	0	10	
Half	0	5	

These were issued by the Irish Bank, to answer in exchange for the pound sterling, 24 of the first amounting to that sum.—The *Copper* coin is the same as in England.

As specie is scarce in Ireland, a great part of the currency consists of local *Notes*, varying in value from one pound to a few pence.

COMMON WEIGHTS.

The authorized *Weights* of Ireland are the same as those of England. But as grain, malt, and flour, are generally sold by weight in Ireland, the following weights used for each, exhibit the scale, as fixed by the Acts of the 23d and 24th of George III.

14 Stones of Flour	1 Barrel	12 Stones of Malt	1 Barrel
20 Stones of meslin, wheat, rye, peas, or beans, 1 do.		2 Barrels	1 Quarter
16 Stones of Barley	1 do.	4 Cwt. of Hay or straw	1 Load
14 Stones of Oats	1 do.	210 lbs. of Beef or Pork	1 Barrel
8 Stones of Oatmeal	1 do.	280 lbs. of	1 Tierce

As the English quarter of Wheat is estimated at 516 lbs., the Irish Barrel is to the English quarter as 70 to 129. The English quarter of Barley is also stated at 240 lbs., and that of Oats at 308 lbs. Hence, the Irish is to the former, as 28 to 75, and to the latter nearly as 7 to 11.

USUAL MEASURES.

The inch, foot, and yard are the same in Ireland as in England; but the pole or perch, which consists of $5\frac{1}{2}$ yards in England, is 7 yards in Ireland. Hence, as the number of poles in an Irish mile is the same as in the English, the former is to the latter as 14 to 11; and the length of the Irish mile is 1m. 2fur. 40yds. English.

As both the English and Irish acres contain 160 square poles, the one consists of 4840, and the other of 7840 square yards. They are therefore to each other, as 121 to 196; or the Irish acre is equal to 1a. 2r. $19\frac{21}{121}$ p. English measure.

The Dry measure of capacity, and its divisions are the same in both Countries

Long Measure.

7 Yards	1 Pole or Perch
2240 Yards	1 Irish mile
$54\frac{1}{2}$ ths Miles	1 Degree of the Eq.

Yarn Measure.

120 Threads	1 Cut
12 Cuts	1 Hank
4 Hanks	1 Spindle

Land Measure.

$10\frac{2}{3}$ ths Inches	1 Link
100 Links	1 Chain
7 Yards	1 Perch
28 Yards	1 Chain
10 Square chains	1 Acre
7840 Square Yards	1 do.

In Builders' work, 21 feet in length, 1 in height, and $1\frac{1}{2}$ in thickness, or $31\frac{1}{2}$ cubic feet, make a rod of Mason's work. Bricklayers estimate by the same length and height, but only take half the thickness.

Coal Measure.

Regulated by Act 1st Geo. II.

Measures.	Bottom.	Top at least.	Winchester Measure.
Half Barrel ..	24 Inches	25 $\frac{1}{2}$ Inches	20 Gallons
Bushel ..	20 ..	21 ..	10 do.
Half Bushel ..	15 ..	16 ..	5 do.
Peck ..	11 ..	12 ..	2 $\frac{1}{2}$ do.
Half Peck ..	10 $\frac{1}{2}$..	11 $\frac{1}{2}$..	1 $\frac{1}{2}$ do.

Liquid Measure.

All Liquids in Ireland are measured by the Gallon, containing 217.6 Cubic Inches.

4 Naggins ..	make	1 Pint
2 Pints ..	.....	1 Quart
2 Quarts ..	.....	1 Pottle
2 Pottles ..	.....	1 Gallon
18 Gallons ..	.....	1 Runlet
40 Gallons ..	.....	1 Barrel of Ale
31 $\frac{1}{2}$ Gallons ..	.....	1 Barrel of Wine
42 Gallons ..	.....	1 Tierce
63 Gallons ..	.....	1 Hogshead
84 Gallons ..	.....	1 Puncheon
2 Hogshead ..	.....	1 Pipe
4 do ..	.....	1 Tun

The following is a comparison of the Wine and Dry measures of Ireland, with those of England; according to the Custom House standard.

Wine Measure.

	Gallons	English, Cubic Inches.	Irish. Cubic Inches.	Cubic inches.	Difference.
Gallon	1	231	217.6	13.4	0.068
Barrel	31 $\frac{1}{2}$	7,276 $\frac{1}{2}$	6,854.4	422.1	1.940
Hogshead ..	63	14,553	13,708.8	844.2	3.880
Puncheon ..	84	19,404	18,278.4	1,125.6	5.173
Butt	126	29,106	27,417.6	1,688.4	7.076
Tun	252	58,212	54,835.2	3,376.8	15.519

Dry Measure.

Gallon	1	268.8	217.6	51.2	0.235
Bushel ..	8	2,150.4	1,740.8	409.6	1.469
Barrel ..	32	8,601.6	6,963.2	1,638.4	7.053
Quarter ..	64	17,203.2	13,926.4	3,276.8	15.059

KINGDOM OF DENMARK.

CHAPTER I.

Name—Situation—Boundaries—Extent—Population—Original Inhabitants—Progressive Geography—Present Division, and Distribution of the Inhabitants.

THE Inhabitants of these Dominions have been known by the name of DANES ever since the sixth century, when Jornandes, in his *De Rebus Gothæis*, shed the first dawn of light on their history. It seems to have been derived from one of their first leaders or princes, called *Dan* ; but they are frequently included in the general appellations of *Scandinavians* and *Goths*. The NAME of the kingdom is evidently derived from that of the people, and implies the marches or territories of the Danes.

Denmark is SITUATED in the north-west of Europe, and includes a portion of the continent with several neighbouring islands. The extensive island of *Iceland*, with the *Faroe Islands*, placed far in the expanse of the northern ocean, also form a part of this kingdom. The Danish authority likewise extends over some other remote regions of the globe. Iceland, however, is so distant from the other parts of the kingdom, and so singular and interesting in itself, that it requires a separate description.

The continental portion of the Danish territories stretches from the right bank of the Elbe, in north latitude $53^{\circ} 20'$, to the extreme point of Jutland, about $57^{\circ} 40'$; thus extending from north to south, through a space of $4^{\circ} 20'$ of latitude. This part includes in succession from north to south, *Jutland*, *Sleswick*, *Holstein*, and the recently-acquired duchy of *Lauenburg*. The chief insular portions, are the islands of *Zealand*, *Funen*, *Langeland*, *Alsen*, *Falster*, *Laland*, *Bornholm*, and *Moen*. There are, also, several others of less extent, situated in the south-west part of the Baltic sea.

The general BOUNDARY of the Danish dominions is, consequently, the ocean, except where the peninsular part joins Germany on the south. This is bounded by the German ocean on the west the Scager Rack on the north, and the Cattegat on the east.

Though the Danish dominions are not extensive, they form a concentrated territory, to which their situation, extent of coast, and other circumstances, give a considerable interest. The peninsular district is about 300 English miles from north to south, but seldom more than 100 from east to west. The insular division, however, has always been the chief centre of the Danish power. Zealand, which is the most extensive and populous of these islands, and the seat of government, approaches a circular form, and is about 200 miles in circumference. Funen is the next in importance, and is separated from Zealand by the strait called the

Great Belt. It is about 50 miles long and 40 broad. Laland is a fertile island, south of Zealand, about 30 miles in length, and 20 in breadth. Langeland, situated west of Laland, derives its name from the proportion between its length and breadth; the one exceeding 30 miles, the other being less than 10. Falster and Bornholm are each about 20 miles long, but not more than 12 broad. The first is regarded as the "orchard of Denmark," and the last has frequently been a subject of contention between the Danes and the Swedes. The whole surface of the Danish possessions in Europe, exclusively of Iceland and the Faroe islands, has lately been stated at 22,000 square miles; and the whole population at 1,800,000 individuals. But as this includes the inhabitants of the distant possessions, it must be reduced to 1,645,000, for the number of inhabitants on the preceding extent of surface, which gives about 79 persons to each square mile.

According to the most authentic testimony of early history, the ORIGINAL POPULATION of this peninsula and its adjacent islands was the *Cimbri*, or northern Celts, from whom the peninsula itself was denominated the Cimbric Chersonese. But when the more powerful tribes of the Scandinavian Goths pressed upon them from the north and east, the Cimbri were expelled from these regions, and sought new abodes towards the south. Yet *Tacitus* states, that in his time there still existed a small community of the Cimbri in the southern part of Jutland, while the remainder of the peninsula was in the possession of seven Gothic tribes; among whom were the Angli, who subsequently imposed their name on the southern portion of Britain. These appear to have resided in the eastern part of the duchy of Sleswick, where there is still a district or province called Anglen.

It is to Roman enterprise and ambition that we are indebted for the first dawnings of our knowledge of these regions. *Tacitus* and *Pliny* are the earliest authors by whom this part of ancient Scandinavia, with some of the neighbouring islands, bays, and gulfs of the Baltic, are mentioned. From these writers, it appears that Denmark was then inhabited by a maritime people, and that the form of their government was monarchical. *Jornandes* and the *Francic* historians supply further information relative to this people, till *Adam de Bremen* gave a minute description of the country, in the eleventh century; and their own classical author, *Saxo Grammaticus*, wrote his history towards the end of the 12th.

Waldemar, surnamed the Great, defeated the *Wends* in several engagements, subdued the island of Rugen, and annexed it to the Danish territories in 1157. The addition of Pomerania soon followed. The marriage of Margaret, daughter of Waldemar III., King of Denmark, and the Semiramis of Scandinavia, to the King of Norway, A. D. 1363, produced the memorable union of the three crowns of the north. In 1387, Margaret ascended the throne of Denmark and Norway, and that of Sweden two years afterwards. Iceland and the Faroe Islands, which had previously constituted part of the kingdom of Norway, were of course obtained at the same time. Christian I. Count of Oldenburg (founder of the present dynasty) inherited the duchies of Sleswick and Holstein, in 1460, and mortgaged the Shetland and Orkney Islands to Scotland about eight years afterwards. The greater part of Sweden was emancipated from the Danish yoke during the tyrannical reign of Christian II. Jemtland, Herjedal, Gothland, and Oesel, were resigned by Christian IV. at the peace of *Bromsebroe*, in 1645; while the province of *Scone* and some other portions of southern Scandinavia, were retained till 1660, when Frederic III. was obliged to resign them and the island of Rugen to the Swedes. Christian V. gained Oldenburg in exchange for Holstein-Gottorp in 1676; but, in 1773, this with the county of Delmenhorst were given up to the younger branch of the house of Gottorp, in consequence of Catharine relinquishing all claims to Ducal Holstein. Subsequently to this epoch, the monarchy remained, with very

little variation in its territorial extent, till 1813, when the king was constrained to exchange Norway for Swedish Pomerania. This province, however, was, in the following year, ceded to Prussia for the Duchy of Lauenburg, and a pecuniary consideration. The Danish dominions, therefore, now embrace the following provinces : viz.

<i>Provinces.</i>	<i>Extent in square miles.</i>	<i>Population.</i>	<i>Chief Towns.</i>
Jutland	10,000	400,000	Wyburg
Zealand, with the adjacent islands,	4,942	550,000	COPENHAGEN.
Sleswick	} 5,850	{ 300,000	Sleswick.
Holstein		{ 350,000	Kiel.
Lauenburg	425	35,000	Lauenburg.
Iceland	67,000	50,000	Reykjavik.
Faroe Islands .....	.....	5,300	Thorshaven.
The Settlements in other parts of the globe .....	.....	100,000	

These provinces are subdivided into governments or bailiwicks ; an enumeration of which would belong rather to a topographical description than to the general outlines of geography.

The islands situated in the Baltic are the most fertile and populous parts of the kingdom, and of these, Zealand takes the lead. The whole of them gives a population of about 112 persons to each square mile of surface, though some present a much less number. Funen, for instance, contains only 65 persons to each square mile, and Laland about 71. Sleswick and Holstein have nearly the same number as the islands generally ; Lauenburg, 82 ; Jutland about 40 ; the Faroe islands 8 or 10 ; and Iceland less than *one*.

CHAPTER II.

Outlines—General Surface—Mountains—Rivers—Canals—Lakes—Climate and Seasons—Soil—Culture and Products.

THE OUTLINES of the Danish dominions are peculiarly indented by the ocean, and present a variety of bays, gulfs, and creeks, including those singular arms of the sea which, in the language of the country, are called *Fiords*. The sovereignty of the seas, by which the principal islands are surrounded, also belongs, in a peculiar manner, to Denmark, and is acknowledged by other nations, in the tribute they pay on passing the Sound.

On doubling the northern promontory of Jutland, vessels enter the Cattegat, which leads to the straits that separate the Danish islands, and thence into the Baltic. The Cattegat is remarkable for the difficulty of its navigation, which is impeded by currents and endangered by sands that frequently shift their positions and elude the vigilance of the most skilful mariner. This passage, like the whole of the Baltic, is nearly destitute of tides, and its waters are less salt than those of the ocean. The principal STRAITS which lead from the Cattegat to the Baltic, are the two Belts and the Sound. The *Little Belt* is the most westerly in point of position, and divides the island of Funen from the eastern shore of the peninsula. Its greatest breadth is about nine miles, but the entrance, at its northern extremity, is not more than one mile. The *Great Belt* has Funen and Langeland on the west, with Zealand and Laland on the east. Its breadth, at the usual passage between Zealand and Funen, is 18 miles; but in other places it is much narrower. The *Sound* washes the opposite shore of Zealand and divides it from Sweden. This is the general passage into the Baltic, and from Elsinore, or Elsinour, on the Danish shore, to Helsenburg, on the Swedish coast, the distance is nearly four miles. This is the narrowest part of the strait, and the place where the vessels of other nations pay tribute on passing. As nearly all the ships that either enter the Baltic or leave that sea pass through this strait, it is one of the most frequented in Europe; and the tolls thus collected by the Danish government form a considerable part of its revenue.

In reference to its GENERAL SURFACE, Denmark is level and undulated, rather than abrupt and mountainous. The aspect of the islands is varied and cheerful, the most elevated parts being clothed with verdure, or shaded with wood, while the vales are rich and fertile. Jutland presents several upland tracts, either covered with forests or clad in heath; but the plains in general afford good pasturage. Much of the central and southern districts of the peninsula may be called flat countries; but the surface, as in some parts of England, is variegated with gentle elevations, woods, streams, meadows, and cultivated fields. A few places only are distinguished by their picturesque, and still fewer by their romantic beauties. But as these are, in a great measure, relative terms, the scenery upon which they are bestowed in one country does not obtain them in another: and the romantic beauties of Denmark would sink into unnoticed varieties in *Switzerland*.

Since the loss of Norway, the Danish dominions, except in the distant islands of Iceland and Faroe, do not contain a single eminence deserving the appellation of a MOUNTAIN; yet some of the hills assume an imposing aspect from the extent of the plains they overlook.

As no part of these territories is very distant from the sea, and the whole entirely destitute of mountains, scarcely any country is so deficient in RIVERS. Numerous streams and rivulets adorn and fertilize its surface, but these are almost invariably lost in the ocean before they have acquired sufficient magnitude to deserve any other name. The EYDER is, therefore, the only river in Denmark Proper that requires description. Rising near the eastern confines of the peninsula, it flows from east to west, separating the duchies of Sleswick and Holstein. It formed the ancient boundary between Denmark and Germany. After passing Rendsburg and Tonningen, it falls into the North sea, beyond the mouth of the Elbe. The tide ascends to Rendsburg, whence the canal of Kiel completes the navigation from the North sea to the Baltic. The whole length of the Eyder is about 100 miles.

The only inland navigation in Denmark, besides what is carried on by means of its bays and fiords, with the river just mentioned, is the CANAL OF KIEL. This extends from the Baltic to the Eyder at Rendsburg, where the river becomes navigable, and thus opens a communication between the two seas. The length of this Canal exceeds 22 English miles, and its size is sufficient to admit vessels of 120 tons burden. Its dimensions, therefore, appear large in comparison with many of those in England. Its breadth at top is 100 feet, at bottom 54, and depth 10 feet. It was begun in 1777, and completed in 1785, at an expense of £800,000 sterling. Between three and four thousand vessels annually passed through this Canal, during the late war, but in time of peace the number is greatly diminished. The whole distance between the Baltic and the German ocean is 105 miles; and the conveyance of merchandize by this route is frequently preferred to the tedious passage round the north of Jutland. The duchies of Sleswick and Holstein have been greatly benefited by this noble undertaking; and, as nearly the whole of the peninsula is favourable to the execution of such works, similar benefits might be obtained in other parts, and an enterprising industry render Denmark a second Holland.

Though the Danish LAKES are numerous, few of them are sufficiently extensive or interesting to deserve description. That of *Ploen*, in Holstein, is one of the largest, but does not exceed 10 miles in circumference. Those arms of the sea which the Danes call *Fiords*, resemble large lakes connected with the ocean by narrow outlets, and are, with obvious propriety, classed under this head. One of the most remarkable of these is the small inland sea, called *Lymfiord*, which enters the eastern side of Jutland, a little below the 57th degree of latitude, and, stretching across the peninsula, terminates within a few miles of the opposite shore. This Fiord diverges into various arms, and encompasses several islands, one of which, called *Mor*, exceeds 60 miles in circumference. The whole length of this inlet is about 90 English miles, exclusively of the extensive arm that stretches towards the south. It is about two miles wide at its entrance, and sufficiently deep to admit vessels of considerable burden; but its depth has greatly diminished since the beginning of the last century, when the largest ships of war could enter without difficulty. Lymfiord abounds with fish, and imparts the advantages of sea-ports to the towns situated on its shores.

Another of these singular inlets runs nearly parallel to the western coast of Jutland, and within a few miles of the sea, with which it communicates by a narrow channel, near its southern extremity. This bay, the Danes call *Stavningfiord*, and the principal island it contains they call *Holmland*. On the opposite side of the peninsula, the *Sley* gives access from the Baltic to the city of Sleswick; and another further north opens a deep passage from the same sea to Flensburg. Numerous other gulfs also intersect the eastern coast. *Isefiord* deeply indents the

northern part of Zealand, and divides into two branches, one of them extending towards Holbeck, and the other to Roschild. An arm of the first also reaches nearly to the western shore.

The geographical situation of Denmark indicates severity of CLIMATE; but the vicinity of the sea renders the air more humid and temperate than in the interior of the continent in the same latitude. The sky is often obscured by fogs, and the south-west winds, which are the most prevalent, are frequently accompanied with rain, which falls at least on one third of the whole number of days in the year.

Fahrenheit's thermometer seldom sinks below 20 degrees, or rises above 60°, yet the heat of summer is occasionally intense, and the cold of winter sometimes very severe. The seas, indeed, are frequently impeded with ice. The transition from summer to winter, and from winter to summer, is rapid; spring and autumn are, therefore, scarcely known. Winter, however, sways his sceptre for the greater part of the year, as the warm weather seldom commences before the end of May, or continues beyond the close of September. The coldest months are December, January, and February; but, even during this season, the continuance of frost is often interrupted. A calm and clear sky are seldom experienced, though the higher parts of the country are by no means insalubrious. The temperature of the climate is the highest, and vegetation the most luxuriant in the duchy of Holstein, and the lately acquired province of Lauenburg, which, in these respects, resemble many parts of the more southern provinces of Germany. The banks of the Eyder, in some favoured places, are scarcely distinguishable from those of the Rhine and the Maine.

The prevailing SOIL of the Danish dominions is of a sandy nature, and well adapted to counteract the humidity of the atmosphere, as well as to increase the fertility of the country. The Soil of Zealand and Laland is considered the strongest, that of Funen, Langeland, and Falster the most diversified. The eastern part of Jutland is more fertile than the western, which contains many sandy districts. The central regions also consist chiefly of a sandy ridge, producing little that is valuable in domestic economy. Near the northern shores of the peninsula, dry sands cover extensive tracts, and being frequently raised by the violence of the wind, prove injurious to the adjacent vegetation. To bind the surface of this sand, and prevent the consequences of its being drifted from place to place, various kinds of trees and shrubs are planted, and the seeds of the plant, called by Botanists the *Elymus arenaria*, are often sown, the spreading roots and large leaves of which are of essential benefit. In the most elevated parts of the duchies of Sleswick and Holstein, the soil resembles that of the other provinces, but in the lower districts, and particularly towards the western coast, it has a greater similarity to that of Holland, being wholly alluvial, and gained from the sea or the mouths of rivers, by embankments. This district stretches nearly from the mouth of the Elbe to the borders of Jutland.—The remains of old embankments are still visible in some parts at a considerable distance from the shore, and show the successive acquisitions that have been gained from the ocean. Sleswick and Holstein are, therefore, naturally divided into two distinct parts, the high lands on the eastern side of the peninsula, and the low and flat country towards the opposite shore. In this latter region, great attention is paid to the embankments by which the possession of those lands is maintained against the incessant struggles of the waves to regain their ancient domain. Particular laws have been enacted for the more effectual management of their embankments, and they are placed under the superintendence of a regular police. Without this care, the waters would soon rush in, and the ravages of a few hours destroy the labour of many years. This tract is generally

called marsh land, and is a uniform plain, totally destitute of any other elevations than the dikes. The soil is a rich earth, more or less mixed with sand, and resting upon a sub-stratum of blue clay, that forms an excellent manure when spread on the surface.

In CULTIVATION, many parts of Denmark has a close resemblance to several districts of England. Its agriculture has been much improved within the last half century, and the country now produces most of the necessaries of life. Various circumstances have contributed to this improvement, among which are, the attention paid by government to the subject, the melioration in the condition of the labouring classes, and the institutions formed for the promotion of domestic economy. Part of the land which formerly belonged to the crown, has been sold, and most of the remainder is divided into farms; while the vassals are either enfranchised, or the servitude in which they are placed is rendered less burdensome, and consequently more encouraging to national industry. Many of the large landed proprietors have followed the patriotic example of their sovereign, and, by that means, have not only increased the value of their estates, but have greatly benefited the lower classes. The *Economical Society* of Copenhagen, founded in 1768, has also done much towards the improvement of agriculture, though its attention is directed generally to the advancement of domestic economy, including agriculture, fisheries, and mines. In 1786, government established an office, denominated a *Chest of Credit*, the object of which was to advance sums of money to facilitate agricultural improvements. Several millions of rix-dollars have been issued from this office, which have been essentially serviceable in promoting the improvement of those objects to which they were applied.

The temperature of Denmark is not too severe for the cultivation of the common products of rural economy, which are therefore more regulated by the nature of the soil, than by either climate or situation. Many parts of Jutland, with the higher parts of Sleswick and Holstein, yield scarcely any other kind of grain than a little rye, for which the light sandy soil is best adapted; but the low grounds produce good crops of wheat, barley, oats, peas, beans, and various other sorts of vegetable produce. This is particularly the case in the western districts of Sleswick and Holstein, which are a complete dead level of good soil, without stone, hill, or tree. The eastern side of the Peninsula is diversified with gentle elevations, overgrown with trees, and is a pleasant and fruitful country, consisting chiefly of a species of yellow clay, more or less mixed with sand. It produces rich harvests, in the parts that are under tillage. The island of Zealand yields large quantities of barley and oats. Funen chiefly produces buck-wheat. Laland and Falster are better adapted to the growth of wheat than the other islands. Rape seed is much grown in many parts of the country, and a good deal is annually exported.

Among the vegetable products of this country must also be enumerated potatoes, turnips, carrots, and cabbages, all of which are much cultivated, and extensively used as food by the lower classes of the population. Hops, hemp, flax, and tobacco are likewise grown, and most kinds of common fruit are plentiful; apples, pears, plums, and cherries, grow well in many districts, and yield abundant crops both for home consumption, and for the supply of other countries where they are less plentiful. The western parts of Holstein also yield several medicinal plants, which form a considerable source of traffic.

Much attention has been paid to the domestic ANIMALS of this kingdom as well as to its vegetable products. The Danish horses are in high repute throughout the greater part of the continent, and vast numbers are annually exported, both for supplying the armies of other nations, and for the carriages of the great. Those most esteemed are bred in the duchy of Holstein, and are distinguished by their

stately figure and spirited action. The government has also been laudably attentive to the improvement of this noble animal. Regular inspectors are appointed to examine the studs kept by private individuals, and prizes are awarded to those who breed the best.

The Danish cattle, which are of a large reddish kind, are in general good, and those in the eastern parts of Holstein are particularly celebrated for the quantity of milk they yield. Great numbers are exported to other parts of Germany, and many are fed on the plains bordering on the western coast, and afterwards sold at Hamburg.

Sheep forms another important branch of the agricultural system of Denmark, and much care and expense have been bestowed in improving the native breeds, by crossing them with those of other countries, as well as by selecting such as are best adapted to the soil and climate of the districts they are intended to supply. In the lower parts of the Duchies they are distinguished for their fine white fleece. Many also are kept in the other parts of Jutland, and in the islands, but their wool is inferior to that produced in Sleswick and Holstein.

Very few goats are to be seen, but pigs are numerous. All kinds of domestic poultry are plentiful, particularly geese and ducks, the feathers of which are a valuable article of export. The Danes also pay great attention to the management of bees; and the islands of Funen, Falster, and Bornholm, produce abundance of honey and wax.

Various kinds of fish are abundantly supplied by the surrounding sea and intersecting fiords, the waters of many of which are so little impregnated with salt, that several fresh-water fish breed in them. The vicinity of the sea to almost every part of the country, is favourable to a constant supply of cod, salmon, herrings, soles, and other kinds of flat fish. The lakes, rivers, and fiords contain pike, carp, perch, eels, and cray-fish. Oysters and other shell-fish are also plentiful along the shores. Numerous fish-ponds, well stocked with carp, formerly existed, but most of them have now been dried, as the inhabitants find it more advantageous to cultivate the ground.

In Denmark, as in most other countries, the decrease of wild animals has kept pace with the progress of cultivation. Those of the more ferocious species have been extirpated, and the others confined to particular districts. Wild boars have disappeared, both from the peninsula and the adjacent islands, and wolves are seldom seen. Deer, foxes, and hares are numerous, and hunting is a common amusement. Rabbits do not seem to have been indigenous, but they are sometimes met with. The principal wild-fowl are the goose, the duck, the swan, the moor-fowl, the woodcock, and the snipe. Sea-fowl also abound in the marshy districts, and particularly on the small islands off the western coast.

From the very nature of the Danish dominions, their MINERALOGY, in an economical point of view, must be of inferior importance. Coal has been obtained in Bornholm and near the western coast of the Peninsula, but peat is the general fuel. Amber is found floating on the surface of the Baltic, or washed ashore on the coasts both of Zealand and Bornholm. The latter island also yields porcelain earth, excellent stones for building, and fine transparent rock crystals, with a species of coarse marble. Gypsum is dug near Kiel, in Holstein; and there are likewise brine springs, from which a sufficient quantity of salt is made for the supply of the country, which is estimated at 18,000 tons annually. Denmark lost her principal mineral treasures, in the separation of Norway. Jutland, however, supplies fuller's earth, alum, and vitriol, and the island of Moen contains hills of chalk; but no metals have yet been discovered, except small quantities of bog iron in beds of peat.

Copenhagen



CHAPTER III.

Principal Cities, Towns, and Buildings

COPENHAGEN (Danish, *Kjöbenhavn*, signifying, *Merchant's Haven*) is the capital of the Danish monarchy, and one of the most regular and best-built cities in Europe. It is situated on the eastern side of the fertile island of Zealand, about twenty miles south of the narrowest part of the Sound, which leads to the Baltic. Like many other eminent sea-ports, it originally consisted only of a few fishermen's huts. But having been granted, with its surrounding territory, by the King to Bishop Axel, he fortified the place, and built a castle for its defence against the numerous pirates by whom the adjacent seas were at that time infested. This was in the latter part of the 12th century, and the protection thus afforded, with its convenient situation for trade, soon increased its population and consequence, and, about the middle of the 13th century, Copenhagen was represented as surrounded with ramparts and ditches. It soon afterwards received the privileges of a town, and was made the residence of the court in 1443. This city, however, owes much of its present regularity and beauty to the disastrous fires by which it has so often been partially destroyed, especially those of 1728 and 1794, when nearly 2600 private houses, besides churches and other public buildings, were consumed. Most of the old houses were built of wood, but in the re-erections, not only external appearance and internal convenience, but durability and safety, were studied. The building of wooden houses being no longer allowed, the common materials employed are brick and white calcareous stone, while many of the best edifices are constructed of free-stone, or Norwegian marble.

On approaching Copenhagen by sea, as well as in some other directions, the view is magnificent. (See the plate.) The town consists of three distinct parts : the Old Town ; the New Town, or Frederickstown ; and Christian's Haven. The first of these is properly the city, and though it still retains its *old* name, it is the most modern of the whole, having been principally erected since the destructive fires above-mentioned. Much of the New Town was rebuilt by Frederick V., between the years 1746 and 1765 ; and its chief ornament is a large noble octagonal space, formed of palaces and other public buildings. This opens into four broad and handsome streets, and its centre is ornamented with a fine equestrian statue of Frederick V. in bronze. Christian's Haven was built by Christian IV. on the adjacent part of the small island of Amak, which is separated from Zealand by the narrow channel that forms the harbour. The entrance to this is so strait that it admits only one vessel at a time ; but the whole is capable of containing 500 sail. The breadth of this channel having been diminished by the encroachments of art, it is now crossed by two bridges, which thus unite this insulated part of the town with the others.

As Copenhagen is not only the residence of the court, but the seat of the great establishments of that kingdom, nearly all the principal buildings of Denmark are concentrated in it. The four chief edifices in the octagonal space above-mentioned, which is called Frederick's square, are the palaces of the King, the Crown Prince, and the King's brother, with the Royal Marine Academy. The Bishop of Zealand has also a residence in Copenhagen ; and, exclusively of the

Cathedral, which was destroyed by the British bombardment in 1807, there are twenty churches, with various other places of worship. Copenhagen contains numerous hospitals, some of which are distinguished for architectural splendour, and others for extensive usefulness. Among the public buildings are the Arsenal, the Exchange, and the Barracks. Many of the residences of the principal nobility, particularly in the New Town, are handsome structures. The spire of Trinity Church, containing the Library of the University, is esteemed a master-piece of art; and the Royal Observatory, which is about 130 feet high and 70 in diameter, is remarkable for a spiral carriage road, constructed of brick, and affording an easy ascent. The population of Copenhagen, which in 1769 was computed at 71,000, and in 1801, at 90,000, is now stated at 105,000 individuals.

The other cities and towns of Denmark worthy of being noticed in this general sketch are but few. The principal one, in appearance, population, and commercial importance, is ALTONA, situated on the Elbe, and about two miles from the celebrated city of Hamburg. It consisted only of a few cottages before it was ceded to Denmark in 1640. In order that it might participate in the trade of Hamburg, the privileges of a city were conferred on it in 1664. In 1713, it was reduced to little more than a heap of ashes by the Swedes, under General Steinboch; but has since been rebuilt in a style of superior elegance, and now contains many good buildings and a population of about 30,000 inhabitants, many of whom are Jews. Its commerce has been greatly fostered by the Danish government, and the vessels belonging to it are about 100, which trade to the various ports of the Baltic, the North Sea, and the Mediterranean. Some are also engaged in the different fisheries for whales, cod, and herrings. Ship-building is a great source of employment at Altona, and several other trades and manufactures are likewise carried on. Among the public establishments, there is an Academy, with seven professors, founded by Christian VII. in 1739; a Library, a House of Correction, and an Orphan House. The articles of trade, and the manner of conducting it, are the same at Altona as at Hamburg; and many of the merchants have warehouses at both places.

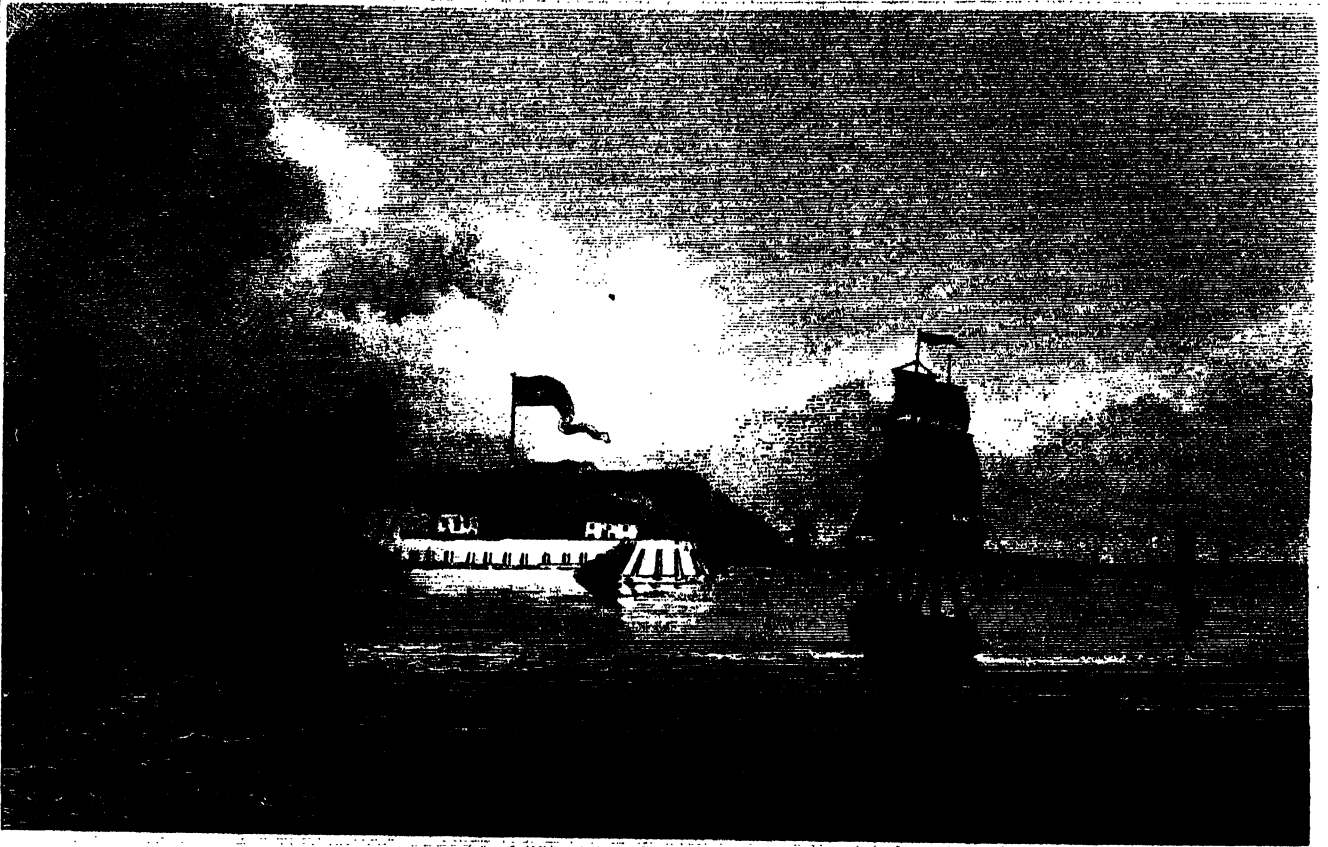
ELSINORE, or ELSINEUR, a well-known town in the island of Zealand, situated opposite Helsingborg, in Sweden, where the passage into the Baltic is narrowest, is the second place of trade in the Danish dominions. Elsinore has no harbour, but an excellent roadstead, in which ships anchor almost close to the town. Many of those engaged in the Baltic trade touch here, either to pay the duties, or take in stores, and the road opposite the town is therefore generally crowded with vessels from all nations. The population of the town is about 7000; among whom are resident Consuls from all the maritime states of Europe. There are likewise several British mercantile establishments at Elsinore.

KIEL, the capital of Holstein, is situated on a bay of the Baltic, between two hills, and is defended by a castle commanding the town and harbour. It is divided into the Old and New Towns. The first stands on a peninsula surrounded by deep ditches, and contains some good buildings, particularly a large church, and an hospital which was formerly a monastery. The New Town is esteemed a pleasant residence, the streets being wide and planted with trees. Kiel is more celebrated as the seat of a University than a mart of commerce, except during its annual fair, which is often well attended. The resident population now exceeds 2000.

GLUCKSTADT is a sea-port on the right bank of the Elbe, and is of considerable importance to Denmark, as it commands, in some measure, the access to Hamburg. It was founded by Christian II., in 1617, by whom it was invested with several privileges, and made the *entrepôt* of the Icelandic commerce. Gluckstadt

Helsingborg with the Swedish side of the Sound.

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Cronenberg with the Danish side of the Sound.



stands near the mouth of the Elbe, where it receives the Rhu, and is a regular and well-built town, with a population of about 5200 inhabitants. Its harbour is impeded by sand-banks, but it has a considerable trade, and participates in the Greenland fishery. The chief Magistrates of Holstein reside at Gluckstadt, and the provincial courts are held at that place. There is also a magazine, an arsenal, a foundry, and a public school for navigation. The town contains a great number of Jews.

SLESWICK is the capital of that Duchy, and consists of one principal street, about two miles and a half long; but in many places it looks more like groups of country-houses than a regular town, many of them being wholly detached, and mostly built of wood. Sleswick, however, is the winter residence of the principal inhabitants of the Duchy. The old cathedral contains numerous monuments, and the castle of Gottorp is a venerable ornament to the town. Though standing on a bay of the Baltic, and possessing an extensive harbour, the shallowness of the water at its entrance, and other circumstances, render the trade of Sleswick inconsiderable.

FLENDSEBERG is the chief town, both in population and trade, in the duchy of Sleswick. It likewise stands on a bay of the Baltic, and has a good harbour capable of admitting vessels of large burden, which are sheltered by the surrounding hills. Flendsberg is described as a place of great activity, with good shops, well supplied markets, and a population of 15,000 individuals. Most of the merchants are ship-owners, and the exports are considerable.

A mere enumeration of some of the other towns will be sufficient.

ROSCHILD, the ancient capital of the Danish territories, is situated at the southern extremity of Isefiord, west of Copenhagen, and is now a decayed town of little importance. The fiord has, from the accumulation of sand, become too shallow to admit of an easy and safe navigation. Even vessels of a moderate size are wholly excluded. Roschild contains an ancient cathedral, which is still the burial place of the Danish kings. The population does not much exceed 3000.

ODENSEE, which is the capital of the Island of Funen, contains nearly 4000 inhabitants, and is noted for its manufacture of leather and gloves; and for the best beer made in Denmark. NYBORG has a good harbour, and exports a little grain. TONNINGEN is situated on the Eyder, and participates in transmitting goods through that river and the Holstein canal to the Baltic. The commerce of AALBORG is principally with Norway, and consists chiefly in grain and herrings. It has also manufactures of soap, silk, pistols, saddles, and gloves. AARHUS is distinguished for its distillery of brandy from grain, and its trade in this latter article, in which it perhaps exceeds any other port in the kingdom. Its trade is chiefly with Livonia, Sweden, Norway, Holland, England, France, and Spain. It is also the chief point of communication between North Jutland and the Island of Zealand. RANDERS for its gloves and breweries. FREDERICIA only deserves notice as the place where the toll is paid by vessels passing the Little Belt.

CHAPTER IV.

Manufactures—Fisheries—Commerce and Shipping.

THE MANUFACTURES of Denmark are neither extensive nor important. Government has, however, made many attempts to enlarge and improve them, and for this purpose great sums have been expended in prizes and other encouragements; but without producing the desired effect. Monopolies, restrictions, and the vassalage of the peasants, have all impeded the progress of the mechanical arts. They have, however, begun to flourish since the state of society has been, in some measure, meliorated; and many useful articles are now made in quantities nearly equal to the consumption of the country. Among these, the manufacture of coarse woollens is one of the most extensive and suitable, being made from a native product for which the country is well adapted. Besides these articles, into which a great part of the coarse wool of the country is converted, there are also manufactures of fine cloths, with shalloons, camlets, and kerseymeres. The finer fleeces, furnished by the province of Eystersted, are used for these purposes, and the remainder is supplied by imports from Spain, Poland, and Mecklenburgh. The number of people employed in this branch of industry, independently of the peasants, who often make sufficient for their own use, has been estimated at 2000; and the value of the articles produced at 165,000 rix-dollars, or about £37,812 sterling. Besides woollen cloth, the Danes make carpets, stockings, gloves, and other coarse woollen goods, from the inferior wool of the sheep which feed on the heath. The women of whole districts in Sleswick are employed in making lace, which was introduced by refugees from Brabant. This manufacture has become extensive, and its produce forms one of the articles of the Danish exports. A little linen is made, but not sufficient for home consumption. Silk and cotton have not been much attended to. A few stockings, ribbands, and some other small articles, are manufactured, though in quantities too small to meet the home demands. The Danes have some good manufactures of earthenware. That of porcelain at Copenhagen is the principal. They likewise make all those articles which are necessary for military equipment, as guns, muskets, powder, swords, &c.; with which they often supply foreign markets. Sugar-houses are common, and the produce is equivalent to the consumption.

In Denmark the FISHERIES are an important branch of her national industry, and her geographical situation is highly advantageous to their encouragement. Vast numbers of herrings and cod are annually cured and exported, particularly to Italy, Spain, and Poland. The small herrings caught in the Sley, in April and May, are much esteemed. The fishery has been long established, and the annual exports are about 1000 tons, besides what is consumed in the country. The herring fishery is also carried on in the North Sea; and, both in the mode of catching and curing herrings, the Danish practice resembles the Dutch. The cod fishery, off the island of Heligoland, employs a number of vessels of a peculiar construction, and about 300 men. Many ships are also engaged in the whale fishery, and the Greenland company have Agents on the coasts of Greenland to purchase the produce of the seas from the natives.

Denmark is favourably situated for both domestic and foreign COMMERCE. The bay, creeks, and fiords which intersect the shore, and extends far into the inte-

rior, with the great length of coast, afford peculiar facilities of communication between different parts of the country, while its position, as the key to the Baltic, gives it an advantage with respect to all the ports of northern Europe. The commerce of Denmark, however, is greatly fettered by monopoly, being principally in the hands of several companies, which enjoy extensive privileges relative to the countries specified in their respective Charters. The Asiatic or East India company monopolizes the trade to the eastern regions. The Icelandic company had, till lately, the exclusive privilege of trading to that island; but all persons, foreigners as well as Danes, are now allowed to participate in the trade, by paying certain duties to the company. The African company, the chief object of which was the slave trade, has happily been reduced to comparative insignificance by the abolition of that inhuman traffic. The design of the general commercial company was to include all the branches of commerce not vested by previous Charters; but its transactions are now chiefly confined to the trade with Greenland.

Only a few ships proceed annually from Denmark to the East Indies; and the country being deficient in suitable products and manufactures for their outward-bound freight, and gold and silver being likewise scarce, the trade is less lucrative than that of most other countries. The Icelandic trade was laid open by an ordinance from the king towards the close of 1816. The exports of Denmark to this distant part of her dominions are grain, wine, brandy, tobacco, and spices, with linen and woollen cloths, timber, hardware, and such other articles as a people living in so high and desolate a latitude, and subsisting principally on fishing and the chase, may require. The vessels generally sail with these commodities in May and June, and return with salt fish, whale oil, coarse cloth, woollen stockings, gloves, hides, skins, feathers, and Eider-down. All the necessary supplies for the Greenland colonies are transmitted from the parent country; and oil, whalebone, seal-skins, and other articles, furnished by the fisheries in the adjacent seas, are taken in return. The possessions in the West Indies, having been restored by the peace, will supply Denmark with sugar, cotton, coffee, rum, and other colonial products.

The principal exports from Denmark to England are raw hides, skins, and oats. The most extensive part of the trade between the two countries was timber from Norway, but this has, in a great measure, been transferred to our own North American colonies. The imports from England are principally a few manufactured articles, and colonial produce, but only in small quantities.

The duties on the importation of foreign commodities into Denmark are high, but all kinds of merchandize, with the exception of the following articles, are allowed to be imported; viz. sugar, either raw or refined, coming from European ports; porcelain, coloured delf, wool-cards, roasted coffee, printed calicoes, and a few kinds of woollen cloth. These restrictions are intended as encouragements to their own industry and manufactures; and, with the same view, such articles as are of essential utility, or have a tendency to promote the arts, are allowed to be imported duty free. The merchants of Denmark have formed connexions with most of the commercial states of Europe, and her commerce in the Mediterranean employs a great number of ships; many of which are engaged in the service of the Italians, as Denmark has mostly been upon good terms with the Barbary states.

As many of the harbours of Denmark are shallow, and the surrounding seas of difficult navigation, most of her ships are small. The number of her merchant vessels, in 1799, when her trade had not been interrupted by the late war, was 1426, navigated by 12,564 sailors, and forming a united burden of 150,980 tons. The commerce of Denmark suffered a great diminution since that period, but has now recovered much of its former activity.

CHAPTER V.

Government—Constitution—Laws—Army—Navy—Revenue—Political Importance and Relations.

THE GOVERNMENT of Denmark, prior to 1660, was an elective monarchy, the right of election being vested in the three states of the kingdom, the nobility, clergy, and commons. They were to choose a man for their ruler, whose virtues and accomplishments qualified him for the proper discharge of his important duties. The supreme *legislative* power was preserved by the states assembled in diet, and the executive authority was vested in the king and the senate, which was composed of some of the principal nobles. At that time the king was little more than president of the senate, and commander of the army; and the Charter of right was always ratified by the sovereign on his accession. But in 1660, one of the most singular revolutions recorded in history placed the king of Denmark among the most absolute Monarchs in Europe. The nobles had long exercised a tyrannical sway over the other two states, who, to revenge themselves of their oppressors, resigned all their privileges into the hands of the king, and compelled the aristocratical branch of the constitution to join them in investing him with absolute authority. The following extracts from the instrument denominated the Royal Law of Denmark, by which the new form of government was promulgated, show with what prudence Frederick III. fortified himself and his successors in the possession of that absolute power which he appeared reluctantly to accept. "The hereditary kings of Denmark and Norway shall be in effect, and ought to be esteemed by their subjects, the only supreme head on earth: they shall be above all human laws, and shall acknowledge, in all ecclesiastical and civil affairs, no higher power, but God alone. The king shall enjoy the right of making and interpreting laws, of abrogating, adding to, and dispensing with them. He may also annul all the laws which either he or his predecessors shall have made, excepting this royal law, which must remain irrevocable, and be considered as the fundamental law of the state. He has the power of declaring war, making peace, imposing taxes, and levying contributions of all sorts." These declarations are followed by regulations for the order of succession, for the regency in case of minority, the majority of the king, and the maintenance of the royal family. Having enumerated almost every possible prerogative of uncircumscribed authority, as if that was insufficient, it is added in the 20th article, "All that we have hitherto said of power, eminence, and sovereignty, and if there be any thing further that has not been expressly specified, shall be comprised in the following words: The king of Denmark and Norway shall be the hereditary monarch, and endued with the highest authority; insomuch that all that can be said or written to the advantage of a Christian, hereditary, and absolute king, shall be extended, under the most favourable interpretation, to the hereditary king or queen of Denmark and Norway."

According to the present CONSTITUTION of the country, the king is assisted in the exercise of his royal functions by a privy council, the members of which he nominates and dismisses at pleasure, except the princes of the blood, who are hereditary counsellors. The great officers are also, in general, members of the

council. From this source all laws emanate, and there all the most important business of government is either sanctioned or transacted. The subjects are previously prepared by different chambers, or colleges, to whose department they more properly belong. These chambers are, 1. The Chancery of Denmark. 2. The Chancery of Germany, having the same authority as the first, in the duchies of Sleswick and Holstein. 3. The Office of Foreign Affairs. 4. The Chamber of Revenue. 5. The Chamber of Customs. 6. The Chamber of Finances. 7. The Chamber of general Economy and Commerce. 8. The War Office, and 9. The Admiralty. Though the power of the monarch is thus absolute, and without any constitutional check, it has seldom been abused. Its exercise, indeed, has been controlled by the influence of religion, the freedom of the press, and the progressive improvement of the nation. Wisdom and moderation have long characterised the measures of the Danish government. The emancipation of the peasants from the state of feudal subjection, and the abolition of slavery in their foreign possessions, which the Danish sovereigns had the honour of being the first in Europe to adopt, with their endeavours to promote national industry and improvement, show their attention to the welfare of their subjects.

The Danish Laws are distinguished for their brevity, plainness, and equity. They are expressed with such perspicuity as to be easily understood; a circumstance that renders lawsuits and lawyers less numerous in Denmark than in most other countries. On the subject of laws, the Danes justly boast their superiority to the more polished nations of Europe. The present code was drawn up under the superintendence of Christian V. and consists of six books, forming one quarto volume. The first book contains the regulations relative to the procedure of the courts of Justice. The second relates to the ecclesiastical government; the third to offices and the different states of persons; the fourth to maritime laws; the fifth to property and contract; and the sixth to crimes and punishments. Different courts of justice are established for the execution of these laws. The first or lowest class embraces the country as divided into districts, and each consists of a judge and a clerk, whose sittings are held once a week, and resemble our Courts Leet. Corresponding with these is the second order, which is established in towns. The succession of authority is continued by the provincial courts, of which there are five: viz. one each for Zealand, Funen, Jutland, Bornholm, and Falster. These meet once a month, and to them lies an appeal from the two inferior courts, provided it be made within six months from the date of their decision. These are again succeeded by the supreme court held at Copenhagen, where all causes are tried as the last resort, and to which alone the nobility are amenable. This court is opened by the king in person, once a year, with great solemnity, and here he is supposed at all times to preside. It sits more than eight months in the year, and is the only one in which verbal pleadings are allowed, the processes of all the inferior courts being conducted in writing. The judges have fixed and adequate salaries. Their decisions are final with respect to property; but in whatever relates to life or honour the king possesses the right of revision. In actions of common law, the defendant is cited before the proper tribunal by the plaintiff, either verbally, in the presence of two witnesses, or by an instrument in writing. The claims of the parties, accompanied with the proofs, &c. are written in plain and concise terms, which are confined to a certain number of sheets, and submitted to the judge, who, in addition, puts such questions as he conceives necessary for elucidating the subject. By this means most of the causes are soon decided, and none can be extended beyond six weeks. Besides, as the number of sheets allowed in the pleadings is limited, and the price of each fixed, the utmost expense of a suit is known. When an appeal is brought before a superior court, the judge of

the inferior court, from whose sentence the appeal lies, is summoned to defend his decision. If it be proved to have been an unjust one, he is made to render satisfaction to the party. In criminal cases the proceeding is similar. The judge empowers two lawyers to conduct the business : the one for, and the other against, the prisoner ; or he may choose one for himself. An appeal to a superior court is also allowed, as in civil cases. But when the criminal is sentenced to capital punishment no execution can take place without first being referred to the king in council, by whose order alone it can be carried into effect. The Danish laws permit the horrid practice of torture, in cases of murder and treason. But it cannot be inflicted before the criminal has been lawfully condemned to lose his life, and it is then designed for the discovery of accomplices. This punishment, however, cannot take place, except under a warrant signed by the king's own hand ; and the rarity of its infliction has been stated as a proof of the lenity of the government, although so absolute in principle. Twenty years frequently elapse without the occurrence of a single example.

There are two instances of resemblance between the Danish laws and the British that appear striking when the difference of the political principles in which they originate is considered. These are trial by Jury, and personal imprisonment. The cases in which the Danish laws admit of trial by jury are murder and the limits of landed property. In these the number of the jury is eight, and the persons of whom it is composed must be men of good character, and nearly in the same condition of life as the person whose cause they are to decide. Nor can any person be imprisoned unless taken in the actual commission of a crime subject to corporeal punishment, or who confesses himself guilty before a proper magistrate.

This circumstance alone proves the Danes to enjoy much greater personal freedom than is usual under the dominion of an absolute monarch.

Sleswick and Holstein have preserved their ancient laws, and separate institutions. Both these and the administration of justice are much more complicated than in the other Danish states. Many of the districts and towns, particularly in Holstein, have laws peculiar to themselves ; and the whole is composed of a number of charters and ordinances, which have been instituted at different periods, and under various circumstances.

The Danish Army consists of both regulars and militia. The whole military force, including Artillery, Engineers, Cavalry, and Infantry, was nearly 40,000 previously to the late war, but that number was increased during the war. The peace establishment, according to the latest returns, is fixed at 24 regiments, containing about 1000 men each. In forming the militia each male peasant is entered on the lists at his birth ; and is liable to be called upon to serve between 21 and 36 years of age. The period of service is eight years, and when vacancies occur, the eldest on the list is called upon to supply them, and before the expiration of that term, the person cannot quit the district in which he lives, without leave from the proper authorities. When the militia are embodied they are not formed into distinct regiments, but attached to those of the line.

Denmark is favourably situated for the creation of a maritime people ; and the Danes have, in consequence, long been the most numerous and experienced sailors of the north. Great attention has been paid to the Navy by their sovereigns, and the naval arsenal at Copenhagen was, at the commencement of the present century, one of the most complete in Europe. Their navy then amounted to 20 sail of the line, fit for actual service, besides frigates and other small vessels. But this navy was reduced by the British in 1801, and almost annihilated by them in 1807. The naval peace establishment is only calculated for the support of 4000 men, but, as nearly 15,000 sailors are registered for the

use of the navy, the seamen in the national service can readily be increased on any emergency.

The annual REVENUE of Denmark is between £1,500,000 and 2,000,000 sterling. It arises, principally, from the Royal Demesnes, Tithes, Land Tax, Poll Tax, a Tax upon titles, places, and pensions, Stamp duties, Customs, and a Toll on vessels passing the Sound. This last produces nearly £130,000 annually, being about one per cent on the value of the cargo of the ships of such nations as have entered into a treaty of commerce with the Danish power, and one and a quarter on others. These values are ascertained by the cocket, or other Custom-house documents. In defect of such official papers, the Danish officers fix the value at what they think proper. Ships of war and Swedish vessels are exempt. The number of vessels that passed the Sound in 1816 was 8871; and in 1817, the number was increased to 13,148. In the first of those years 4608 ships entered the Baltic, and 4263 left it; during the second, 6758 entered, and 6390 passed in a contrary-direction.

As a system of strict economy is maintained in all departments of the Danish government, the expenditure is usually kept within the income; but cases have occurred, as in the late war, when this could not be effected, and the public debt, though varying with the fluctuating value of the currency, is now estimated at about 10 millions sterling.

With territories and resources so limited, the POLITICAL IMPORTANCE of Denmark cannot be great, nor her RELATIONS extensive. Confined to a narrow peninsula and a few adjacent isles, with much of its surface unfavourable to the productions of the vegetable kingdom, and destitute of mineral treasures, her native resources are incapable of great augmentation. Her geographical position, however, and the habits of her people, render her a maritime nation, and examples of that success which may yet attend her exertions in this obvious path are not wanting, either in ancient or modern times. As the *Key* to the Baltic, Denmark possesses advantages which the other northern nations do not enjoy. Of these she lately availed herself to promote her naval superiority; but her adherence to the political views of our enemies caused her fleet to fall into our hands, and her finances have not yet allowed her to repair the loss. The same perverse adherence to the cause of France, also obliged her to resign Norway. Both these events sufficiently show her weakness in the general political system of Europe, and strongly indicate the danger that menaces her independence, unless protected by an alliance with some state capable of protecting her against the encroaching dispositions of her northern neighbours. Her West India colonies, which were restored by Britain at the peace, supply her with colonial produce; but the scantiness of her natural products, the low state of her manufactures, and the smallness of her capital, preclude her from deriving all the advantage from her foreign, and particularly from her oriental settlements, which they are capable of yielding.

CHAPTER VI:

Religion and Ecclesiastical Geography—Education—Language and Literature—Arts and Sciences—Manners and Customs—Antiquities and Natural Curiosities.

THE established *Religion* of Denmark is Lutheranism, which was introduced as early as 1536. The Roman Catholic faith succeeded the worship of *Odin*, the supreme divinity of ancient Scandinavia, about the end of the ninth century; but the most strenuous efforts of papal influence could not stop the progress of the reformation in the Danish dominions, nor prevent the final establishment of the Lutheran faith. The revenues of the church were then seized by the Crown, and partly dedicated to the maintenance of the Clergy, and in part reserved for the service of the state. Complete toleration is allowed, which strongly marks the enlightened policy of the government. The ecclesiastical establishment of Denmark seems to be a medium between the Church of England and the Calvinistic discipline. By the cession of Norway, the number of bishops has been reduced to eight, six in Denmark, and two in Iceland, but they have no political character, their functions being solely confined to ecclesiastical affairs. Nor is there any archbishop, but the bishop of Zealand is the metropolitan. The duties of the Danish bishops resemble those of the English dignitaries, as far as relate to spiritual concerns. Their appointment is vested in the king, which constitutes him the head of the church as well as of the state. The see of Zealand is the richest, its annual revenue being about £1000 per annum. The others are from £400 to £600, except in Iceland, where they do not exceed £150 a year. Most of the Danish livings are in the gift of the king and the proprietors of privileged estates. A few, however, are at the disposal of private individuals, and some of the clergy are chosen by their respective parishes. The minister of the established church is held in higher veneration in Denmark than in most other reformed countries. Both Denmark and its distant possessions have been much benefited by the establishment of a society for propagating the gospel, which was instituted at Copenhagen in the reign of Frederick IV. It is liberally supported by government, and its beneficial influence has not only penetrated into the snow-clad huts of Lapland and Greenland, but has been particularly felt on the sultry plains of Asia.

In Denmark, EDUCATION has long been an object of serious attention, both with the government and individuals; and it is now happily brought within the reach of all, by the establishment of parochial schools, in which the children of the poor acquire the rudiments of knowledge in their native language at the public expense. The masters to whom the management of these schools is entrusted are prepared for the discharge of their duties at an Institution at Copenhagen. They have each a small salary, with other privileges, allowed by the state. Besides these parochial schools, others, in which classical learning is cultivated, have been established in various parts of the kingdom, and are also supported at the expense of the Crown. The number of these is nearly fifty; and in them, geography and history are usually added to classical instruction. There is a College at Odensee, and Universities at Kiel and Copenhagen. The last of these is the great centre of literature and science in the Danish dominions. The professors have liberal salaries, and its library contains about 60,000 volumes. A chemical laboratory, a

cabinet of natural history, a botanical garden, and an anatomical theatre, are attached to the Institution. The number of students is generally about 700; many of whom are from various countries in the north of Europe. Several eminent men have laid the foundation of their future fame at this university. The number of students at Kiel, where the advantages and pursuits are similar to those at Copenhagen, is generally between 200 and 300.

The Danish LANGUAGE is a dialect of the ancient Scandinavian, which is still preserved in the greatest purity in Iceland. The same language is common to Denmark and Norway, though modified by various local diversities, which insensibly blend with each other. With these exceptions the written language is the same from the banks of the Eyder to the limits of Finmark. It also differs little from the Swedish, which is derived from the same source, as an inhabitant of each country can understand the works of the other. French and High Dutch are frequently spoken at court, and English is much studied by the merchants.

Many of the early works of the Danes and Norwegians (those of both countries being generally included under the term Danish literature) were composed either in the ancient Scandinavian or Latin. Hence the cultivation of the Danish language for literary purposes is only of recent date; and it is considered by some philologists as susceptible of much more elegance and purity than it has yet attained. Many valuable works, however, have now been written in the native tongue; but the population is so small, and the men possessed of literary leisure so few, that the Danish writers are not numerous, nor the literary fame of the country extensive. Professor *Fabricius* of Kiel, however, enumerates several authors of good repute in each of the following departments, viz. Jurisprudence, Medicine, History, Natural History, Philosophy, Antiquities, Statistics, and Poetry. At the head of these respective lists, the professor places the following names; *Nourregard*, *Cullisen*, *Huyewish*, *Vahl*, *Rheinholdt*, *Mynter*, *Schlegel*, and *Baggesen*. Various other writers have likewise distinguished themselves, as *Langebek*, in Scandinavian Antiquities; *Holberg* and *Suhm* in History; and *Boye* and *Gamborg* in Moral Philosophy.

The Institutions that have been founded under the patronage of the Danish Sovereigns have had great influence in improving Literature, Science, and the Arts. In 1746, the Royal Society of Copenhagen was instituted by Christian VI. for the advancement of the northern history and languages; and the publication of its transactions has greatly elucidated the annals of the north. The *Royal Academy of Sciences* was also instituted about four years before, by the same monarch; and its transactions contain many valuable papers on subjects connected with Natural History, Mathematics, and Philosophy. The *Academy of Fine Arts* was founded in 1794, under the auspices of Frederick V. and consists principally of Professors of Painting, Sculpture, and Architecture. Among the Danish painters who have lately distinguished themselves, are *Juel*, *Hoyer*, *Poulsen* and *Müller*; and as architects, *Hasdorgh* and *Hanssen*. In astronomy, Denmark has the honour of claiming the celebrated *Tycho Brahe*, with *Bugge* and *Schumacher* of the present day. The *Flora Danica* is a national honour; and the collection of rare shells engraved and coloured by *Regenfass*, at the king's expense, is one of the most complete works of the kind that any country can boast. *Niebuhr*, the celebrated traveller, whose writings have been so long distinguished for intelligent research and correct statements, was also a Dane.

The ancient Danes acquired a peculiar celebrity by their courage, ferocity, and piratical disposition. Restless and enterprising in the extreme, they laid many of the southern countries of Europe under contribution for several centuries. Among others, the history of our own Island bears ample testimony to their war-

like dispositions, and successful exploits. Their national character has, in this respect, however, greatly changed; and though yet a brave and humane people, they have lost much of their ancient simplicity of life. Among the modern Danes, the higher classes differ but little from the same ranks in the other countries of northern Europe. The feudal splendour in which many of them lived before the monarchy was rendered hereditary and absolute, introduced an extravagance into their mode of living, which has not yet subsided, though they have now fallen from that height of magnificence and power they once so flagrantly abused. A great value is still set upon titles and privileges, and with many of the higher classes, pomp and show are much indulged.

By the customs of Denmark, the inhabitants are divided into five classes. The first includes the nobility who hold privileged estates under the King. The second, the titular nobility, embracing the two orders of Knighthood, all the counts and barons who are possessed of such estates, and all the higher officers of the state, civil, military, and ecclesiastical, for these offices confer nobility during the lives of the persons who hold them. Appointments of this description are therefore frequently obtained in Denmark for the sole purpose of acquiring rank, without either deriving any emolument from such appointments, or discharging the duties they nominally involve. On the contrary, the annual sums paid for the acquisition of these titles form a considerable addition to the royal revenue. The third class comprises the inferior Clergy, Lawyers, and Students. The fourth the merchants and citizens of the towns; and the fifth consists of farmers and seamen.

In personal appearance, the Danes are generally tall and robust; with good features, fair complexions, and flaxen or reddish hair. The females, however, are seldom distinguished for symmetry of shape, or taste and elegance in dress. The tables of the rich abound with every luxury, and those of the middle classes frequently exhibit a variety of foreign delicacies; but the food of the lower orders is principally oat cakes, rye bread, fish, cheese, and similar products of the country. Much of the ancient hospitality and magnificence has now disappeared; but excess in the use of wines and other intoxicating liquors is represented as still characteristic of the people. The state of vassalage under which the peasants so long groaned has been either abolished or greatly meliorated. They have, in consequence, been proportionally raised in the scale of humanity, and their habits, manners, and circumstances of life, manifest a corresponding improvement.

The ANTIQUITIES of the Danish dominions are neither numerous nor important. Those chiefly met with are of the class denominated *Runic*, from the characters which are inscribed on them, but the period in which they were erected is uncertain. Circles of upright stones are common in various parts of the country, both on the continent and in the islands. Many of those found in Iceland were erected during the Icelandic republic, and are called *Domhring*, or circles of judgment; whence their origin and design are obvious. Monuments, consisting of two upright stones with one placed across their upper extremities, are also frequently met with; as well as those of other forms, generally considered as Druidical. All the civil edifices were for a long time constructed of wood; and consequently those of an early date have perished; but some of the ecclesiastical structures, which were composed of more durable materials, have withstood the dilapidating hand of time. The bath of *Snorro*, the celebrated historian, built in the 13th century, is still to be seen in Iceland.

Denmark does not present any NATURAL CURIOSITIES worthy of description, but those of *Iceland* and the *Farøe Islands* are numerous, and will be described under their respective heads.

CHAPTER VII.

Islands, Colonies, and Settlements.

BESIDES the islands already mentioned, as forming an essential part of the body of the Danish monarchy, there are a few others that merit description. Among these ICELAND is pre-eminent. This is one of the most considerable of the European islands, and is in many respects highly interesting. Situated within the verge of the Arctic regions, and shrouded in almost perpetual winter, it early became the seat of literature and science. From this part of the distant horizon, the northern star of literature shed its benign rays on those regions which slumbered beneath the incumbent weight of more than Egyptian darkness and superstition.

Iceland, according to Dr. *Henderson*, is situated between $63^{\circ} 20'$ and $67^{\circ} 20'$ of north latitude, and $15^{\circ} 30'$ and $29^{\circ} 30'$ of west longitude. Its greatest length is about 380 English miles, and its extreme breadth 230 miles. The superficial extent is stated by the same author at 67,600 square miles, inhabited by a population of nearly 50,000 people. Other writers have estimated both the extent and population at much less; but the extreme irregularity of the one, and the dispersion and wandering habits of the other, render it difficult to ascertain either with accuracy.

The OUTLINES of Iceland are serrated with numerous promontories, bays, and creeks, a few of which afford excellent harbours, and are frequented by vessels engaged in the whale fishery. Some of these inlets penetrate far into the land, and afford secure shelter from almost every wind. Most of them, like the inlets on the Danish shores, are denominated *Fiords*; and among those which are most frequented on the western coast are *Brederfiord* and *Faxeifiord*. On the north, the bay of *Direfiord* presents a safe anchorage. Several others of the same kind indent other parts of the coast.

With respect to the origin of this island, Dr. *Henderson* observes, "The opinion that it owes its formation to the operation of submarine volcanoes, is not only confirmed by analogical reasoning deduced from the appearances presented by other islands, which are confessedly of volcanic origin, but gains ground in proportion to the progress of a closer and more accurate investigation of the geological phenomena, which every part of it exhibits to the view of the naturalist. In no quarter of the globe do we find crowded within the same extent of space such a number of ignivomous mountains, so many boiling springs, or such immense tracts of lava, as here arrest the attention of the traveller. The general aspect of the country is the most rugged and dreary imaginable. On every side appear marks of confusion and devastation, or the tremendous sources of these evils in the yawning craters of huge and menacing volcanoes. Nor is the mind of the spectator relieved from the disagreeable emotion arising from reflection on the subterranean fires which are raging beneath him, by a temporary survey of the huge mountains of perpetual ice by which he is surrounded. These very masses, which naturally exclude every idea of heat, contain in their bosom the fuel of conflagration, and are frequently seen to emit smoke and flames, and pour upon the plain immense floods of boiling mud and water, or red-hot torrents of devouring lava. Tracts of lava also traverse the island in almost every direction. The whole of

the interior, as far as has been explored, consists of an inhospitable desert, traversed in various directions by barren mountains, between which are immense tracts of lava and volcanic sand, with here and there a small spot, scantily covered with vegetation."

Several of the highest mountains of Iceland are volcanic. One of the most noted is *Hecla*, situated near the south-west coast of the island, and rising to the height of nearly 5000 feet above the level of the sea. Some of the eruptions of this mountain have been among the most terrific of modern times; but a more particular description of them, accompanied by a plate, will be given under the head of NATURAL CURIOSITIES. The summit of *Snefiel*, situated on the south-west coast, is esteemed the highest point of the island, and has been stated at 6860 feet above the sea. Many of the other mountains are extremely abrupt and rugged, but few of them exceed 5000 feet in perpendicular height. Some of them, however, form magnificent natural curiosities, and will be noticed as such under that head.

If Iceland, the theatre of contending elements, afford few pleasing prospects to the eye of the traveller, yet it presents a spectacle at once grand and awful, counterbalancing, by the sublimity of the conceptions which it produces, the deficiency of those scenes which, in other countries, diffuse around them a calm that fills the mind with placid emotions. The coast, however, affords some relief to the eye when fatigued with gazing on the stupendous scenes of desolation in the interior. Here a few insulated, and sometimes contiguous, farms occasionally present themselves, but no tree is to be seen; the utmost efforts of nature failing, in this dreary country, to produce any thing beyond the size of a shrub.

Numerous RIVERS, or rather mountain streams, water the vales of Iceland, but few of them are of importance, and none are employed for the purposes of navigation. The rivers and lakes are attended with this remarkable circumstance, that some of them produce fish, and others do not, without any apparent cause for the peculiar distinction. The *Hvitaa* is the largest river in the southern part of the island. It receives several streams from the adjoining mountains, and, when swelled by rains or the melting of the snow, it becomes a powerful and rapid torrent. The whole length of its course is about 80 English miles. It abounds with salmon, and is sometimes frozen in winter; but on such occasions, the ice is frequently thawed by the heat of the subterraneous fires, without any visible change in the temperature of the atmosphere. The *Thuer* is another considerable river, flowing nearly parallel with the former, which it afterwards joins. The stream is deep, and sometimes rapid, and is well stocked with trout and salmon. In the northern part of the island, the *Blanda* is the principal stream.

Iceland is characterised by several Lakes and Fiords, the latter of which resemble those branches of the sea to which the same appellation is given in other parts of the Danish dominions. One of the most singular of these is *Olafsfjord*, situated in the northern division of the island. It is a fresh-water lake, abounding in fish, and possesses the peculiar property of producing cod and other salt-water fish, superior in quality to those caught in the adjacent seas. These, however, are chiefly taken in winter; and when the lakes are frozen, the inhabitants make holes in the ice, and catch them with a line. In summer, the fish caught are principally trout. To account for this singularity in the productions of this lake, naturalists have observed that it is separated from the sea only by a bank of sand. It is supposed, therefore, once to have formed part of the sea, and to have been cut off by the power of a submarine volcano; and thus to have enclosed the species of fish it contains. A river which flows into it has gradually rendered its waters fresh, and thus insensibly naturalized the fish to this change in their native element.

In the same quarter of the island is the *Myvatn Lake*, or Gnat Lake, which

derives its name from the immense swarms of insects with which it abounds. It is about 40 miles in circumference, but it has been so much filled up by the torrents of lava that have at various periods flowed into it, that its greatest depth is now said not to exceed four fathoms, while most of it is much shallower. Both this lake and the surrounding country are among the most singular parts of this extraordinary island, as well from the subterraneous fires that rage beneath, as from the extraordinary effects they have produced. Its banks are deeply indented with numerous angles, creeks, and sinuosities, produced by the lava which has flowed into it. The lava which forms its bottom also contains many rents and chasms; and what is very remarkable, there are various hot fountains in the middle of the lake, boiling to such a degree that the steam issuing from them may be seen at a great distance. More than thirty islands have also been formed by the heaving or explosion of the sub-aquatic lava; some of which are covered with herbage, which the inhabitants use either for hay or pasturage. Most of them abound in *angelica*, a plant of which the natives are very fond, and which they frequently collect for winter provision. The other lakes are either less important or less known, and do not require description in this general sketch. The very name of *Iceland* is indicative of its *climate*, which one of its native poets has emphatically described, who represents the country as, “an island in a frozen sea, aged, and clad in a snow-white pall.” Yet the temperature is much less severe than might be expected in so high a latitude.

Those who are habituated to a more genial clime, or accustomed to bask beneath the beams of a vertical sun, are apt to consider Iceland as almost constantly buried beneath the Arctic snows, and its miserable inhabitants as incessantly exposed to all the inclemencies of a polar sky. These ideas of relentless severity have so inseparably connected themselves with an Icelandic winter, that it was avoided by travellers as little less than insupportable; and thus the delusion became perpetuated. Referring to this notion, Dr. *Henderson*, who passed the winter of 1813-14 on the island, observes, “This, however, is far from being the case; the climate is perhaps more unsettled, but it is very seldom that the cold is more intense than in the south of Scandinavia. At first, I confess, I shuddered at the idea of spending a winter in Iceland, but what was my surprise when I found the temperature of the atmosphere not only greater than that of the preceding winter in Denmark, but equal to the mildest I have lived either in Denmark or Sweden.

“In the month of November, the mercury did not sink lower than 20°, and it was nearly as often above the freezing point as below it. On the 6th of December, with clear weather and a light breeze from the east-north-east, it sunk to 8°·5, after which, especially towards the end of the year, the weather became remarkably mild, and continued in this state till near the middle of January; the thermometer, for the most part, being between 34° and 40°. On the 10th and 11th of January, it fell as low as 15°·5, but rose again in a short time, and continued much more frequently above than below the point of congelation till the 7th of March, when we had a strong wind from the north-north-west, and the mercury, which had stood the preceding day between 30° and 34°, sunk in the morning to 9°·5, at noon to 8°, and at 9 o'clock in the evening it fell to 4°·5, which was the strongest degree of frost we had the whole winter. The following evening it was at 6°, and on the 9th it rose to 10°, on the 10th to 19°, and so on till the 13th, when it got again to 32°, and continued for the most part above it for the remainder of the month. On the 12th of April, it fell to 19°, but otherwise kept varying between 32° and 52°. About the middle of May the atmosphere grew colder, occasioned most probably

by the approach of some masses of Greenland ice, and on the 18th and several following days, the mercury was at 29°.

“The quantity of snow that fell during the winter was very considerable, especially in the northern parts of the island, where many of the peasants were reduced to circumstances of great distress by the consumption of the fodder they had provided for their cattle. The atmosphere was on the whole rather clear and serene, than darkened by mists, which is, in a great measure, to be ascribed to the prevalence of brisk land winds, to which the mountainous part of the country is extremely favourable.” The climate of Iceland, however, is greatly affected by the vast masses of ice which drift from the Arctic regions against its northern and southern shores, and which not only diminish the temperature, but augment the unsettled state of the atmosphere.

One of the most striking natural phenomena of these northern regions, and particularly of an Icelandic winter, is the *Aurora Borealis*; and as Dr. Henderson had peculiar opportunities of witnessing this appearance in all its perfection of resplendent brilliancy, we shall not hesitate to give a brief account in his own words.

“I had the opportunity of contemplating the northern lights almost every clear night the whole winter, sometimes shooting across the hemisphere in a straight line, and presenting to the view, for a whole evening, one vast steady stream of light, but more commonly they kept dancing and running about with amazing velocity, and a tremulous motion, exhibiting, as they advanced, some of the most beautiful curvated appearances. On gaining one point of the hemisphere, they generally collected, as if to muster their forces, and then began to branch out in numerous ranks, which steered off to the greatest distances from each other as they passed the zenith, yet so as always to preserve the whole of the phenomena in an oval shape, when they contracted nearly in the same way as they had expanded, and after uniting in a common point, they either returned in a few minutes, or were lost in a stream of light, which grew fainter and fainter, the nearer it approached the opposite side of the heavens. They were mostly of a dunnish yellow, yet often assuming mixtures of red and green. They almost always took their rise from the summit of *Mount Erian*, which is about due north-east from Reykeavik, and proceeded in a south-west direction. When visible the whole length of the hemisphere, they were uniformly strongest towards the north and north-east, and were always sure to be seen in that quarter when they appeared no where else. Once or twice I observed them in the south, but they were faint and stationary.”

As the sun continues in some parts of the island for many days together, during the middle of summer, and in all parts night is totally banished for a much longer period, the temperature of the atmosphere is greatly raised by this continued day, and Fahrenheit's thermometer sometimes stands at 80°, but this degree of heat is never of long continuance. The heat of the summer, however, is often felt as being so intense, and the sun shines with such dazzling splendour, that travellers have been extremely reluctant to leave the shade of their tents to pursue their journey during the middle of the day. The immense swarms of large mosquitoes with which the air is then loaded, prove an almost intolerable annoyance. Such is also the difference of temperature, occasioned by local circumstances, that it frequently snows on the hills, and rains in the vallies at the same time. Thunder is seldom heard, except in the neighbourhood of volcanoes; but igneous meteors, parhelia, lunar haloes, and all the optical phenomena common to volcanic countries and a dense atmosphere, are often visible. The whole island is seldom free from earthquakes for any great length of time together.

Iceland is but little benefited or adorned by the varied productions of the vege-

the island, and the only one that is native, and the only one that is not introduced from other parts of the world. The Iceland horse is a small, but strong, hardy animal, and kept miserably poor for a great part of the year by the deficiency of food during the winter. As wheel carriages cannot be used in this island, every thing is carried on the backs of horses, and their number is, in consequence, proportionally great. Every Icelander keeps his riding horse, and many of the peasants have fifty or sixty for burdens. The cows are likewise small, and are kept in considerable numbers; which, however, are often reduced by the scarcity of winter food. This valuable animal is the principal source of the wealth, comfort, and even subsistence of the Icelander. "Milk," says Sir George Mackenzie, "is almost their only summer beverage: Whey becomes a wholesome, and to them a pleasant drink in winter. Even fish itself, their primary article of food, is scarcely palatable to an Icelander without butter; and curds, eaten fresh in summer; and kept through the winter, yield the most precious change of diet, both for health and pleasure, which he enjoys." A small breed of sheep is kept in Iceland in considerable numbers, and supplies the natives with a great part of their animal food, as well as with the principal material of their manufactures. Their wool is coarse, and is never shorn, but is either pulled, or suffered to fall off in the early part of summer. The wool is at first fine and short, but as the winter approaches, it is mixed with a long and coarse kind. There are very few goats on the island, and these are chiefly in the northern and eastern parts. The Icelanders have no pigs, as the country does not produce suitable food for their support. Reindeer are numerous in the unfrequented parts of the interior; but no use seem yet to have been made of them in domestic economy. The dogs of Iceland are both numerous and valuable, and are much used by the farmers and peasants of a country where there are scarcely any fences to retain the cattle and sheep within proper bounds.

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Foxes are the only wild animals that are natives of the island, and they are said to be of two distinct kinds, the one white, and the other a variegated brown. If the artifices which these animals are said to employ in taking their prey can be credited, they would amount to strong proofs that the Iceland fox possesses all that cunning sagacity for which he is so celebrated in other regions of the globe. Arctic bears sometimes visit Iceland, being drifted over from Greenland on floating pieces of ice; but they are in general soon killed by the inhabitants, who are justly jealous of so formidable an enemy gaining a settlement in the island.

Various kinds of birds are common in Iceland. Eagles, Hawks, Falcons, Ravens, and numerous species of sea-fowl are found along the coasts. The white falcon is the most valuable, and is only allowed to be caught for his Danish Majesty, whose falconer is sent over annually for the purpose of procuring a supply of them. Large flocks of swans, wild ducks, and geese, also frequent the lakes and marshes; and several other birds of passage, which visit the more southern

parts of Europe in the winter, resort to Iceland to breed in the summer. Ptarmigans are very plentiful in many districts of the island; but the most valuable of the Icelandic birds is the *Eider duck*, which breeds in great numbers, and supplies one of the most valuable of the Icelandic exports in its down. This the old ducks strip from their breasts for the purpose of lining their nests, and from which it is taken by the natives, at certain stages of the breeding season. Their eggs also form a favourite food with the Icelanders. Various kinds of fish are found, both in the surrounding seas and the waters of the interior. Cod, haddock, salmon, and trout, are the most commonly caught; and the fishery in some parts of the island is prosecuted with considerable perseverance and success, as it is upon this that the natives not only depend for a great proportion of their subsistence, but also for one of the chief articles of their barter for many of the other necessities of life. The herring-fishery, however, is much neglected, and Mr. Hooker says, that when he was there in 1809, the inhabitants were not provided with nets for catching them.

The *Mineralogy* of Iceland does not present much that is very interesting. Iron, copper, and some traces of silver, have been discovered; but the scarcity of fuel must ever prevent the useful metals from being worked in any considerable quantities. Sulphur abounds, and whole mountains are supposed to be composed of it. Lava and volcanic productions of all kinds are spread in great profusion over nearly the whole island. Marble and calcareous stone are abundant, and some precious stones have also been found; but a great part of the interior is so little known, and so desolate, that whatever treasures it may contain, little that is valuable can ever be procured from it.

Of manufacturing establishments this remote island is entirely destitute. Each family makes all that is requisite for its immediate wants, both as to dress and domestic utensils. The simple operations of tending their herds and flocks, and fishing, form the chief employment of a great number of the inhabitants. In addition, a little coarse woollen cloth, and a few worsted stockings, are made, hides are prepared for making shoes, and some rude articles of wood, iron, and copper, are produced. Each individual is his own Smith, Carpenter, Builder, Tanner, Shoemaker, &c.

Commercial transactions in Iceland are, of course, carried on upon a very limited scale; and, both in the interior and on the coast, consist principally in bartering one commodity for another. The surplus produce is conveyed to the coast on the backs of horses, and there exchanged for such articles as either form the necessities, or rank among the comforts of simple life. The principal exports are fish, oil, salt, mutton, wool, and tallow, with some woollen stuffs, worsted stockings, skins of foxes and other animals, feathers, and sulphur. The articles they receive from other countries in return are rye, barley, oatmeal, peas, biscuits, potatoes, wine, rum, brandy, tea, coffee, sugar, tobacco, salt, wood, iron, flax, lines, hooks, indigo, silk and cotton handkerchiefs, with a few other articles from some of the more favoured countries on the continent. The chief port of the island is Reykeavik, which, however, is only a village with about 400 inhabitants. The rest of the population are either spread over the country in single houses, or in small hamlets of a few dwellings each.

In *Natural Curiosities* Iceland is unrivalled by any other region on the globe. The whole island itself, which seems to have been the stupendous work of submarine volcanoes, is one of the most striking specimens of the wonderful that Nature has presented. Its furious volcanoes, its boiling springs, its subterraneous fires, and its mountains of ice, have in them qualities by which they are assimilated to

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the awfully majestic, or the stupendously sublime. Almost every part of this extensive island exhibits the remains of extinguished craters, not only on the most elevated mountains, but even in the plains and vallies, and tracts of lava frequently intersect the traveller's path for many miles together. Among its numerous volcanoes, whose eruptions have been the most terrific, is *Hecla*, which is situated about 30 miles from the coast, and is one of the secondary mountains of the island. Its elevation is about 4000 feet above the level of the sea, and its summit consists of three separate peaks, the middle one being the highest. The craters are vast openings in the sides of these peaks, and, according to the latest accounts, were partially filled with snow. The mountain itself is composed of a sort of vitrified stone, the lava being confined to the lower regions, where it forms a vast rampart round the base, from 40 to 70 feet in height.—*See the annexed plate.*

The *Krabla*, situated in the north-east part of the island has often ejected rivers of liquid fire, one of which partially filled the great lake Myvatn, dried up its waters, and destroyed the fish. *Katlegiaa*, is another volcano, from which immense streams of boiling water issued in 1755, and deluged an extent of country fifteen miles long, and twelve broad. Loud rumbling noises were heard at the time, eighty or ninety miles off, and at the Faroe islands, three hundred miles distant, ashes fell like rain. But one of the most dreadful volcanic eruptions which the annals of Iceland have yet recorded, was that of 1783, in the district called Skaptefield's Syssel, in the south-east part of the island. So abundant was the lava which then issued from this mountain, that it dried up the two large rivers Skapta and Hverfisfiot.

Among the most singular and astonishing natural phenomena of this wonderful island are its boiling springs. Of these we cannot present a more lively idea than is conveyed by the description of a recent traveller. He observes; "Though surrounded by a great multiplicity of boiling springs, and steaming apertures, the magnitude and grandeur of which far exceeded any thing we had ever seen before, we felt at no loss in determining on which of them to feast our wondering eyes, and bestow the primary moments of astonished contemplation. Near the northern extremity of the tract rose a large circular mound, formed of the decompositions of the fountain, justly distinguished by the appellation of the GREAT GEYSER, from the middle of which, a great degree of evaporation was visible. Ascending the rampart we had the spacious bason at our feet, more than half filled with the most beautiful hot crystalline water, which was just moved by a gentle ebullition, occasioned by the escape of steam from a cylindrical pipe or funnel in the centre. This pipe I ascertained, by admeasurement, to be seventy-eight feet in perpendicular depth, its diameter is in general from eight to ten feet, but near the mouth it gradually widens and opens almost imperceptibly with the bason, the inside of which exhibits a whitish surface, consisting of a siliceous incrustation, which has been rendered almost perfectly smooth by the incessant action of boiling water. The diameter of the bason is fifty-six feet in one direction, and forty-six in another; and, when full, it measures about four feet in depth, from the surface of the water to the commencement of the pipe. The borders of the bason, which form the highest part of the mound, are very irregular, owing to the various accretions of the deposited substances; and at two places are small channels equally polished with the interior of the bason, through which the water makes its escape when it has been filled to the margin. The declivity of the mound is rapid at first, especially on the north-west side, but instantly begins to slope more gradually, and the depositions are spread all around to different distances, the least of which is nearly a hundred feet. The whole of this surface, the two small channels excepted, displays a beautiful siliceous efflorescence, rising in small granular clusters,

which bear the most striking resemblance to the heads of cauliflowers, and which are of so extremely delicate a contexture, that it is hardly possible to remove them in a perfect shape. They are of a brownish colour, but in some places approaching to a yellow. On leaving the mound, the hot water passes through a turfy kind of soil, and, by acting on the peat, mosses, and grass, converts them entirely into stone, and furnishes the curious traveller with some of the finest specimens of petrification."

Such is Dr. *Henderson's* account of the exterior of this astonishing fountain. With respect to its eruptions, the same intelligent author, having heard sounds issuing from it resembling the discharge of distant artillery, observes that, "concluding from these circumstances that the long-expected wonders were about to commence, I ran to the mound, which shook violently under my feet, and I had scarcely time to look into the bason, when the fountain exploded, and instantly compelled me to retire to a respectful distance on the windward side. The water rushed up out of the pipe with amazing velocity, and was projected by irregular jets into the atmosphere, surrounded by immense volumes of steam, which, in a great measure, hid the column from the view. The first four or five jets were inconsiderable, not exceeding sixteen or twenty feet in height. These were followed by one about fifty feet; which was succeeded by two or three considerably lower; after which came the last, exceeding all the rest in splendour, which rose at least to the height of seventy feet. The large stones which we had previously thrown into the pipe were ejected to a great height, especially one, which was thrown much higher than the water. On the propulsion of the jets they lifted up the water in the bason nearest to the orifice of the pipe to the height of a foot, or a foot and a half, and on the falling of the column it not only caused the bason to overflow at the usual channel, but forced the water over the highest part of the brim, behind which I was standing, the great body of the column (at least ten feet in diameter), rose perpendicularly, but divided into a number of the most superb curvated ramifications; and several smaller spoutings were severed from it, and projected in oblique directions, to the no small danger of the spectator, who is apt to get scalded, ere he is aware, by the falling of the jet.—*See the plate.*

"On the cessation of the eruption, the water instantly sunk into the pipe, but rose again immediately, to about half a foot above the orifice, where it remained stationary. All being again in a state of tranquillity, and the clouds of steam having left the bason, I entered it, and proceeded within reach of the water, which I found to be 183° of Fahrenheit, a temperature of more than twenty degrees less than at the period while the bason was filling, and occasioned, I suppose, by the cooling of the water during its projection in the air."

When this traveller saw the same fountain, the following year, the water was projected to the height of 150 feet. Others have observed them to vary from 90 to 360 feet. Many other fountains are highly deserving of the traveller's attention; for when Dr. Henderson visited the *Stocker*, the great rival of the Geyser, its jets were propelled to the height of 200 feet.

The Ice-mountain is another of those astonishing phenomena of Nature which Iceland exhibits on the most stupendous scale. This mountain stretches at least 100 miles across the interior of the island. The intelligent traveller, already quoted, says, with respect to it; "At the spot where we stood, it was in our power to receive strong mental impressions of heat or cold, according to the direction in which we turned. When we looked to the west and north we had nothing before us but regions of ever-during ice; whereas, on turning to the south, we were reminded of the clouds of smoke, ascending from the Geysers, and of the magazines of fire that lay concealed in the neighbourhood.

On approaching the *sulphur mountain* and the *jetting pool* of the *Krabla*, the sulphureous exhalations become very strong, and the surface of the ground, which is chiefly composed of an indurated stratum of bole incumbent on a bed of liquid sulphur, is so deceitful that it is no longer prudent to proceed on horseback. Even when every precaution is taken in leading the horses and choosing the road, their feet often break through the superficial crust, and leave holes, from which the vapours ascend in great abundance, so that every moment the adventurous traveller is supposed to sink into

“ — a fiery deluge, fed with ever-burning sulphur unconsumed.”

Beneath this upper crust is a thick bed of pure sulphur, through which the vapour ascends with a loud hissing noise. The sublimation of sulphur is produced by the ascension of this impregnated vapour from the subterraneous fire that rages beneath the surface. The sulphur mountain is about five miles long and one broad, and joins the ridge which unites the volcanoes of *Krabla* and *Leirknukr*.

The jetting pool of the *Krabla* lies at the bottom of a deep gully in the same neighbourhood, and resembles a large boiling cauldron about 300 feet in circumference, filled with a black suffocating liquid, either in a state of ebullition or rising in vast columns like the great *Geyser*, though not to an equal height. A similar pool is also met with near *Krieserik*, in the peninsula south of Reykiavik. In reference to this spring and its surrounding scenery, Mr. *Hooker* observes, “ At all times clouds of steam, strongly impregnated with sulphureous exhalations, were issuing from the aperture, but during an eruption of the waters, the quantity of both was very considerably augmented. The view of this spring from a little lower down the mountain, together with the surrounding scenery, had an effect the most extraordinary that can be conceived. From the dark-coloured and elevated margin of the fountain extended for a great way in every direction; the yellow crust of crystallized sulphur, raised into a gently swelling hillock by the soft bolus of immeasurable depth beneath; and from the centre of this tumbling mass, a crater was vomiting forth with a tremendously roaring noise, to the height of four or five feet, a thick blackish liquid, accompanied by vast bodies of steam, which now ascended perpendicularly, now were driven down the sides of the hill by the frequent eddying gusts of wind which issued from the chasms that abounded in the neighbourhood. A back-ground, worthy of such a picture, was supplied by the dark and rugged sides of the mountain that, extending all around, formed a chain of rocks, which, in addition to the rudeness of their figure, were the most barren that can be imagined.”

Not only are the physical conformation and natural phenomena of this island highly interesting, but the Manners, Customs, and Characters, of its inhabitants are also peculiarly worthy of attention. If attachment to a country the most desolate and inhospitable—If unsuspecting frankness of character and liveliness of temper—If a strong sense of propriety and independence—If acuteness of mind and the possession of extensive knowledge under circumstances the most inimical to its acquisition—If hospitality in the midst of the severest poverty—and if pious contentment, under all the multiplied privations to which they are exposed, have any claims to our regard, that regard is due to the Icelanders.

In personal appearance, the Icelanders are rather tall, with a frank, open countenance, a florid complexion, and yellow flaxen hair. The women are proportionally lower in stature than the men, and more inclined to corpulency; but they generally live to a greater age. Both sexes usually exhibit much debility of body in the earlier periods of life, which has been ascribed to their want of proper food and exercise; but the hardships they are capable of enduring when arrived

at a mature age, are often astonishing. Their want of personal cleanliness, the nature of their food, and their being often obliged to remain long in their wet woollen clothes, render them liable to cutaneous diseases and pulmonary complaints, the last of which are more fatal than any other malady with which they are afflicted.

With respect to the personal disposition of the Icelanders, Dr. *Henderson*, who had the best opportunities of any modern traveller of becoming acquainted with them, remarks, "I have been surprised at the degree of cheerfulness and vivacity which I found to prevail among them, and that not unfrequently under extreme depression and want. Their predominant character is that of unsuspecting frankness, pious contentment, and a steady liveliness of temperament, combined with a strength of intellect and acuteness of mind seldom to be met with in any other part of the world. They have also been noted for the unconquerable attachment which they feel for their native island. With all their privations, and exposed, as they are, to numerous dangers from the operation of physical causes, they live under the practical influence of one of their common proverbs: *Island er hinn besta land sem solinn kinnar uppá*. "Iceland is the best land on which the sun shines."

The mode of living, as well as the food of the Icelanders, is of the simplest description. Their breakfast generally consists of *skyr*, which is a dish of sour coagulated milk, resembling the Scotch curds. With this, however, they use sweet milk and cream, and sometimes give it a peculiar flavour by mixing with it the juice of some of their native berries. Dried fish and rancid butter form the usual dinner. For supper they have either *skyr*, bread and cheese, or porridge, made of the Icelandic moss, which to a foreigner is the most healthy and palatable of all their usual articles of diet. On Sundays, holidays, and other particular occasions, a little boiled mutton, rye-porridge and milk, supply the place of some or all of the preceding articles. On the first day of summer, at harvest home, and at Christmas, feasts are generally given to the servants, consisting of fresh mutton, milk-porridge, and bread. This last is an article which many of the inhabitants seldom taste. Their common drink is a kind of whey mixed with water. This simple fare they offer with the utmost liberality to the traveller who approaches their solitary huts, which are frequently separated from each other by wide intervening tracts of rugged and barren country. They are generally composed of turf, and are of the rudest construction.

The Icelandic costume is peculiar, and deserves a brief description. Next to the body, the females wear an under garment, made of single wadmél, (a coarse kind of woollen cloth) and fastened round the neck by a button, and sometimes by a silver clasp. Over this two or three blue petticoats, which they call *fat*, are worn, and in front, an apron, bordered with black velvet, and ornamented with silver clasps, and frequently with lace and embroidery. Immediately beneath the bodice, the petticoats are fastened by a broad girdle of black velvet, richly embroidered, and studded with various ornaments. The bodice is also richly ornamented, and fastened in front by a number of large silver clasps, generally gilt, and rendered more conspicuous by being fixed upon a broad border of black velvet, which is itself often bound with red. The jacket, which they call *Treja*, and which goes over the bodice, is made to fit close to the shape, and is composed of black wadmél, and some times of black velvet. It is usually ornamented with gilt buttons, which frequently bear the initials of the husband and wife. Round the neck is worn a thick ruff of black velvet, and, like the other parts of the dress, much ornamented, especially with embroidery of silver. Over the whole is thrown the *Hempa*, or cloak of black cloth. The edges of this cloak are bordered with

black velvet, and it is fastened in front with a number of silver clasps. The stockings are made of either dark blue or red worsted, and the shoes of seal or sheep skin. These are made tight to the foot, and take its exact shape, except the pointed toe, which turns upwards. They are fastened about the ankle and instep with leather thongs. The females of the highest class, whose circumstances in life allow them to possess additional ornaments, suspend elegant silver chains round their necks, to which they attach medals or large pieces of silver, bearing figures or inscriptions of a religious nature.

“The most curious and fantastic part of the female costume is the head-dress. It consists of a *faldur*, or turban, made of white linen, and stiffened with an immense number of pins. It is generally between fifteen and twenty inches in height, and roundish where it leaves the head, but instantly assuming a flattish shape, and after rising to the height of about twelve inches by a curve backwards, it again bends forward, and terminates in a square form, not less than six inches in breadth. It is fastened to the head by means of a black or dark-coloured silk handkerchief, which is wound round it several times, and, falling close behind the ears, completely hides the hair. The bridal dress is still more rich, especially the *faldur*, which is then elegantly adorned with a fillet embroidered with gold.”

In summer, however, the common working dress of the Icelandic females consists of nothing but the shift and petticoats of white wadmel, and a blue cap, the top of which hangs down on one side, and is ornamented with a tassel, exactly resembling those worn by some of our horse-soldiers in their undress. This, with blue petticoats and a blue jacket, constitute the domestic dress of the first females in the island.

The costume of the men is simpler than that of the women, and has a great resemblance to that worn by the peasants of Norway and some parts of Sweden. It is composed of a shirt of wadmel, with blue waistcoat, jacket, and trowsers, of the same kind of cloth. The edges of these are all bordered with a red stripe. The caps they wear when at home are like those of the women, but when they are going any distance, they are exchanged for very broad brimmed hats, and a long *Hempa*, or cloak, defends them from the cold and rain.

As the Icelanders adhere most rigidly to whatever has once been adopted as a national custom, and as their language, dress, and mode of life have been invariably the same for the last nine centuries, they exhibit a faithful picture of their Scandinavian ancestors. The Icelandic language is the ancient Scandinavian, from which both the Danish and Swedish have been derived; but the lapse of nine centuries, and the vicissitudes which these countries have experienced, have so far modified these as to render them distinct tongues, while the original language has become a foreign idiom both to the Danes and Swedes. The Icelandic is a regular and cultivated language, subject to grammatical rules, similar to those of the Latin. They are so accurately observed by the natives, that the least mistake made by a foreigner is immediately detected. This language is uniformly spoken, and written, throughout the whole island.

Accustomed from his infancy to listen to the noble and heroic deeds of his ancestors, and justly to regard his country as the hallowed asylum of literature and science, when the rest of Europe was immersed in ignorance and barbarism, the earliest and most permanent associations of the Icelanders are changed into national feelings, and every thing connected with his native land, its manners and customs, is so completely identified with himself as to be almost beyond the power of change. This gives even to the Icelandic peasant a certain dignity and boldness of carriage, with a strong sense of propriety, and a love of independence, seldom met with in other nations.

As there are neither parochial schools nor private establishments for the instruction of the Icelandic youth, mental cultivation is wholly left to the ability and inclination of the parents. But a good understanding, a familiar acquaintance with the characters and actions of their forefathers, a strong sense of national honour, and a deep veneration for religious instruction, peculiarly qualify them for the discharge of this important duty. The children are taught to read their native tongue by the mother, or some other female of the family; after which they acquire writing and arithmetic from the father. Every clergyman is also bound to visit each family in his parish two or three times in the year for the purpose of catechising the younger branches, and thus ascertaining their progress in the fundamental doctrines and principles of christianity. These are all the means of education enjoyed by the great body of the Icelandic youth, as the only established school in the island is designed for such as are to fill offices in the church or state. Yet insufficient as they may seem, the effect proves them to be fully adequate to all the practical purposes of life, and even to promote those purposes in a much higher degree than the pompous establishments of many other countries. Together with these fundamental principles, a love of knowledge is frequently excited by the example of their parents and superiors in mental attainments, which induces the individual to rear a more extensive superstructure upon the foundation which has thus been laid. On this point a recent traveller, who was not only well prepared, but who had the best opportunities of investigating the subject, observes, "I have frequently been astonished at the familiarity with which many of these self-taught peasants have discoursed on subjects which, in other countries, we should expect to hear started by those only who fill the professor's chair, or who have otherwise devoted their lives to the study of science." The same traveller also remarks, in another place, "It is no uncommon thing to hear youths repeat passages from Greek and Latin authors, who have never been farther than a few miles from the place where they were born. Nor do I scarcely ever recollect entering a hut where I did not find some individual capable of entering into conversation with me on topics which would be reckoned altogether above the understanding of people of the same rank of society in other countries of Europe. On many occasions, indeed, the common Icelanders discover an acquaintance with the history and literature of other nations which is perfectly astonishing."

This universal diffusion of knowledge is greatly promoted by a custom, that many other nations which regard themselves as much further advanced in civilization might adopt with advantage. It is thus described by Dr. *Henderson*, who was a frequent eye witness of the fact, "A winter evening in an Icelandic family presents a scene in the highest degree interesting and pleasing. Between three and four o'clock, the lamp is hung up in the *badstofa*, or principal apartment, which answers the double purpose of bed-room and sitting-room, and all the members of the family take their stations, with their work in their hands, on their respective beds, all of which face each other. The master and mistress, together with the children, or other relations, occupy the beds at the inner end of the room, the rest are filled by the servants.

"The work is no sooner begun, than one of the family, selected for the purpose, advances to a seat near the lamp, and commences the evening lecture, which generally consists of some old saga, or such other histories as are to be obtained on the island. But being badly supplied with printed books, the Icelanders are under the necessity of copying such as they can get the loan of, which sufficiently accounts for the fact, that most of them write a hand equal in beauty to that of the ablest writing masters in Europe. Some specimens of their Gothic writings are scarcely inferior to copper-plate. The reader is often interrupted, either by the head, or

some of the more intelligent members of the family, who make remarks on various parts of the story, and propose questions, with a view to exercise the ingenuity of the children and servants. In some houses the Sagas are repeated by such as have got them by heart; and instances are not uncommon of itinerant historians, who gain a livelihood during the winter, by staying at different farms till they have exhausted their stock of literary knowledge."

Poetry has always flourished in Iceland; and there are yet several *skalds*, or poets, who cultivate it with success. Many respectable names might easily be enumerated; and besides other original and approved works of imagination, the venerable *J. Thorlakson* has produced an excellent translation of Milton's *Paradise Lost*, into his native language. *J. Espolin* has also continued the history of the island from the time the old Sagas ceased to the present period. The *Icelandic Royal Society* has made many laudable efforts for the general diffusion of knowledge; and the *Icelandic Literary Society*, formed within the last two years, both in Iceland and at Copenhagen, has already published the great Icelandic history *Sturlungasaga*, in the original text, established an Icelandic Journal, and commenced some other important undertakings.

For a more particular account of the literature of this singular people, we must refer the reader to a paper drawn up by Dr. *Holland*, and inserted in Sir *George Mackenzie's Travels in Iceland*.

The salutations of Iceland are so singular, and afford such a clear view of their simplicity of character, that we shall transcribe the brief account of them as given by the author just quoted. "The common salutations of the Icelanders are most palpably oriental. On meeting a person, you hail him with *sæl vertu*, which exactly corresponds to the Hebrew *shalom lach*, or to the Arabic *salam aleik*, neither of which signify 'peace,' in the occidental sense of the word, but 'I wish thee happiness or prosperity.' The person you salute generally replies *drottinn blessa ydr*, or *blessa ydr drottinn*, 'the Lord bless you.' When you meet the head of a family, you wish prosperity to him and all that are in his house; and on leaving them you say, *se i guðs friði*, 'may you remain in peace with God;' which is returned with, *guðs friði veri með ydr*, 'the peace of God be with you.' Both on meeting and parting, an affectionate kiss on the mouth, without distinction of rank, age, or sex, is the only mode of salutation known in Iceland, except in the immediate vicinity of factories, where the common Icelanders salute a foreigner, whom he considers as his superior, by placing his right hand on his mouth or left breast, and then making a low bow. When you visit a family in Iceland, you must salute them according to their age and rank, beginning with the highest, and descending, according to your best judgment, to the lowest, not even excepting the servants; but in taking leave, this order is completely reversed; the salutation is first tendered to the servants, then to the children, and, last of all, to the mistress and master of the family."

The following instance so forcibly exemplified the hospitality and innocent simplicity of these people that we shall close our account with it. Speaking of himself, Dr. *Henderson* observes, "when the hour of rest approached, I was conducted by my kind host and hostess into a back apartment, where was an ancient but excellent bed, on which I had every reason to conclude, more than one of the Holm Bishops had reposed. A ceremony now took place which exhibits, in the strongest light, the hospitality and innocent simplicity of the Icelandic character. Having wished me a good night's rest, they retired, and left their eldest daughter to assist me in pulling off my pantaloons and stockings; a piece of kindness, however, which I would a thousand times rather have dispensed with, as it was so repugnant to those feelings of delicacy to which I had been accustomed. In vain I remonstrated against it as

unnecessary. The young woman maintained it as the custom of the country, and their duty to help the weary traveller. When I had got into bed, she brought a long board, which she placed before me, to prevent me from falling out; and depositing a bason of new milk on a table close to my head, bade me good night, and retired. Such afterwards I found to be universally the custom in Icelandic houses. Where there are no daughters in the family, the service is performed by the mistress herself, who considers it a great honour to have it in her power to show this attention to a stranger."

The FAROE ISLANDS form a group in the Northern Ocean, situated between Iceland and Shetland, and comprised between $61^{\circ} 15'$ and $62^{\circ} 20'$ of north latitude. In longitude they stretch from about 5° to nearly $7^{\circ} 30'$. The number of these Islands is twenty-five, seventeen of which are inhabited by about 5200 individuals. The principal island in the group is Stromsœ, which exceeds 20 miles in length, and contains a surface of 143 square miles, and more than 1500 inhabitants. Osterœ has a superficial extent of about 88 square miles, with a population of 1100 inhabitants. Norderœ contains 66, and Suderœ 35 square miles, with about 600 inhabitants each. Besides these, Nalsœ, Faugœ, and Sandœ, are some of the chief members of the group.

Many of these islands consist of elevated rocks, rising abruptly from the sea with majestic and imposing grandeur. They are separated from each other by narrow channels. The highest summits are estimated at more than 2000 feet in perpendicular height. Their general aspect is rugged and barren, the rocks, in many places, appearing above the surface of the soil, which is often fruitful, though thinly spread over the stony mass. Many parts are occupied by peat, but others produce barley and potatoes, which are the principal objects of culture. These are frequently obtained by means of mould collected with great labour, and spread over the surface of the rock, which the moisture of the climate often renders productive. The inhabitants, however, depend upon the other parts of the Danish dominions for their chief supplies of grain, which consists of barley, rye, and peas. Sheep constitute their principal wealth, for which several of the islands afford good pasturage; though the most majestic specimen of the vegetable kingdom does not exceed the size of a shrub, and a few stunted willows and birches alone present the diminutive semblance of trees. The sheep supply the inhabitants with wool, which they not only manufacture into clothing for their own use, but knit into waistcoats, stockings, and caps, which they exchange with the Danes for other necessities of life. Among the chief employments of the inhabitants are fishing, and catching the seals and sea-fowl, which resort in vast numbers to their steep and rocky coasts. In this latter pursuit they display the greatest enterprise and dexterity, being frequently let down from the summit of the cliff by means of ropes; then swinging themselves into the holes and clefts of the rocks in which the birds breed, they are thus enabled to take their eggs and young. In their language and mode of life the inhabitants of these islands have a greater resemblance to the Icelanders, than to the other subjects of the Danish crown. Thorshaven, situated on the Isle of Stromsœ, is the capital, and the only town in the group, the rest of the inhabitants being scattered over the surface, in small villages or detached huts. Nature has formed several commodious harbours in the inlets that indent these rocky shores. The principal exports are salted mutton, tallow, quills, feathers, Eider-down, with woollen waistcoats, stockings, and caps. In return, they receive several of the necessities of life, which their situation and climate preclude them from deriving from their native soil. A bed of coal has also been found on the principal island.

Besides the Islands above described, and those mentioned in the preceding Chapters, there are various others, which, though less extensive and important,

require a brief notice. **BORNHOLM** is the most eastern of the Danish Islands. It is situated in the Baltic, about the 15th degree of east longitude, 100 miles from the nearest shores of Zealand, and 40 from the coast of Sweden. Its length is 30 miles, and its breadth nearly 20. The soil is, in many places, stony, but fertile; and both grain and sheep are frequently exported. The inhabitants near the coast are chiefly employed in the fishery, while many of those in the interior are engaged in the marble and stone quarries, coal pits, and vitriol works. There are one town and about 100 villages and hamlets scattered over its surface.

One of the most southern of the Danish Islands is **FEMEREN**, or **FEMERN**, near the north-eastern promontory of Holstein. This island is 30 miles in circuit, and contains a population of 7600 individuals. Many of these are occupied in fishing, and others in agriculture; while the women are generally engaged in knitting stockings, both for the supply of domestic wants and for exportation.

The Cattegat contains the islands of *Samsøe*, *Anholt*, *Lessøe*, and *Hertzholm*. The first of these is situated between Zealand and the coast of Jutland, and the last is near the north-eastern promontory of the same peninsula. The others are both further from the shore. The western coast of continental Denmark is likewise broken, apparently by the force of the Atlantic waves, into various detached fragments. The chief of these rocky islands are *Nordstrand*, *Fohr*, *Sylt*, *Rømø*, and *Fanøe*. The inhabitants of all these islands are principally employed in fishing and navigation. *Heligoland* lies more south, and further from the Danish coast; but is now in possession of the English, by whom it was captured from the Danes, and reserved as a station, whence a commercial communication may be maintained with the continent, when other channels are closed.

The Danes have **COLONIES** and **SETTLEMENTS** in various parts of the globe. In Asia, they have establishments on the coast of Coromandel and the Nicobar Islands. But their chief settlement in the east is at *Tranquebar*, which is populous and flourishing. In Africa, they have Christianburg and other forts on the coast of Guinea. In the establishment of these forts, the Danes, like other nations, were influenced by the lucrative, but iniquitous, traffic in slaves. They, however, had the honour of setting an example to the other European powers in the abolition of that inhuman trade. The preparatory edict for this purpose, was published by the Danish government in 1792, and the trade was formally abolished in 1803.

In the West Indies, the Danes possess the Islands of *Santa Cruz*, *St. Thomas*, and *St. John*, which were in possession of the English during the greater part of the late war, and were restored when Denmark resigned Norway to Sweden, in 1814. Previously to these islands being taken by the British troops, the trade between them and the mother country was subject to various restrictions, but since their restoration it has been declared free. Their united produce amounts to about 30,000 hogsheads of sugar, and 12,000 casks of rum; the conveying of which to Denmark employs nearly 60 Danish vessels.

Besides the islands, the Danes have settlements on the coast of *Greenland*, which is now generally regarded as a peninsula of the New World. The settlements are seventeen in number, and extend from the 59th to the 74th degree of north latitude; where they have agents both for fishing and trading with the natives. Here, also, they have missionary establishments, the members of which have succeeded in converting many of the native Greenlanders to Christianity; but both their number and support are yet inadequate to the accomplishment of the great work they have undertaken. According to the accounts lately received by the Missionary College at Copenhagen, the whole population of Greenland, in 1818, as far as it was then known in the Danish Colonies on the west coast, was 5836.

MONEY, WEIGHTS, MEASURES, AND EXCHANGES.

Accounts are kept at Copenhagen in rix-dollars of 6 Marks, or 96 Danish schillings each. At Elsinore, they are kept in Rix-dollars of 4 Orts, or 96 Danish schillings; and in the duchies of Sleswick and Holstein, the Rix-dollar is equal to 3 Marks, or 48 schillings Lübbs.—The following are the principal Monies and Coins of Denmark: viz.

<i>Monies.</i>	<i>Value in English.</i>
	s. d.
1 Schilling	0 0 $\frac{1}{2}$
16 Schillings equal to 1 Mark	equal to 0 7 $\frac{1}{2}$
2 Marks ——— 1 Mark Lübbs ———	1 2 $\frac{1}{2}$
4 Marks ——— 1 Base-dollar ———	2 5 $\frac{1}{2}$
6 Marks ——— 1 Rix-dollar ———	3 7 $\frac{1}{2}$
120 Schillings ——— 1 Specie Rixd. ———	4 6 $\frac{1}{2}$

None of these Monies, however, are generally in circulation; hence, the money usually employed in commercial transactions, is bank-money, which is always at a great discount.—These values vary with the rate of exchange; and are taken to the nearest farthing when the rate of exchange is at $\frac{1}{2}$ Rix-dollars to the £ 1 sterling.

<i>Coins.</i>	<i>Value in English.</i>
Gold.	s. d.
Ducat Specie, equal to 14 Marks 12 Schil. equal to	4 10 $\frac{1}{2}$
Ducat of 1757 ——— 12 Marks ———	7 7 $\frac{1}{2}$
Christiansd'ors, 1775— 26 Marks ———	15 3 $\frac{1}{2}$
Silver.	
Rix-dollar, Specie — 7 Marks 6 Schil. equal to	4 8
Crown equal to 4 Marks 4 Schil. ———	2 7 $\frac{1}{2}$
Ebrer ——— 11 Schillings ———	0 7
Ryksorts ——— 24 Schillings ———	1 0

Copper.—The pieces are equal to 1 schilling, half schilling, or fyrke, quarter of a schilling, or Dreyling.

In addition to these, there has been a new currency, coined in Holstein, since 1783, which consists of Rix-dollars equal to 60 schillings Holstein currency; and also pieces equal to 40, 20, 10, 5, and 2 $\frac{1}{2}$ schillings, Holstein currency.

USUAL WEIGHTS.

The weights used in Denmark for gold and silver, are different from those employed for general commercial purposes; the latter being to the former, as 17 to 16; 100lbs. of gold, is therefore equivalent to 106 $\frac{1}{2}$ lbs. commercial weight.

Gold and Silver Weight.

Danish.	Value in English oz. Troy.
17 Eschen equal to 1 Pfennig equal to	0.02949
4 Pfennings ——— 1 Quintin ———	0.11797
4 Quintins ——— 1 Lod ———	0.47137
2 Lods ——— 1 Ounce ———	0.91375
9 Ounces ——— 1 Mark ———	7.55
2 Marks ——— 1 Pound ———	15.1

Commercial Weight.

Danish	Value in Eng. lbs. Avo.
12 lbs. equal to 1 Bismar-pound equal to	1.32
16 lbs. ——— 1 Lis-pound ———	17.6
36 lbs., or 3 Bismar, = 1 Vog ———	1.29
100 lbs. ——— 1 Centner ———	11.0
320 lbs., or 20 Lis-pd. = 1 Ship-pound ———	55.2

The pound is divided in the same manner as in gold and silver weight.

COMMON MEASURES.

Long Measure.

Danish.	Value in Eng. Feet.
12 Lines equal to 1 Inch equal to	0.0359
12 Inches ——— 1 Foot ———	1.0306
2 Feet ——— 1 Ell ———	2.0613
3 Ells ——— 1 Fathom ———	6.1840
5 Ells ——— 1 Ruthe or Perch ———	10.3066
12,000 Ells ——— 1 Mile ———	2147.560000

Square Measure.

One Danish square foot is equal to 153 English square inches. The Danish is therefore to the English square foot, very nearly as 17 to 16, or 16 Danish feet are equal to 17 English. A Toende of arable land is 5682 square Ruthes, or 220 English perches, equal to 1.575 acres. The Danish Toende of hard corn, implies as much land as can be sown with a Toende of rye or barley.

Dry Measure.

Danish.	Value in Winch. bush.
4 Viertel equal to	0.11932
4 Viertels equal to 1 Scheffel ———	0.47737
3 Scheffels ——— 1 Toende ———	3.613
22 Toendes ——— 1 Last ———	54.900

A last of French salt or lime is 12 Toendes corn measure. A last of oil, butter, tallow, and other fat substances, is 12 Toendes beer measure. Spanish salt and coals are sold by the last of 13 Toendes. Norway salt is always disposed of by weight, and the Toende is equivalent to 76 Danish lbs.

Liquid Measure.

Danish.		English Wine gallons.
1 Pøle	equal to	0.6974
4 Pøles	1 Pot	0.279
2 Pots	1 Kann	0.1395
15½ Pøles	1 Stubgen	0.5501
10 Stubgen	1 Anker	3.9512
4 Ankers	1 Ohm	39.512
6 Ankers	1 Hog-head	39.512
2 Hog-heads	1 Pipe	118.535
2 Pipes	{ 1 Quarter, or 1 Fuder of Wine }	237.15
136 Pots	1 Barrel of Beer	3.9512
120 Pots	{ 1 Toende of Pitch 1 Bot of Norway do. }	23.715

EXCHANGES.

The commercial business of Denmark is transacted in Danish Currency. Bills drawn upon that country are frequently made payable in Hamburg; but Copenhagen often exchanges directly with several places. With these, the rate of exchange is subject to variation; but the following is about a medium; for London, Hamburg, Altona, and Amsterdam: viz.

5 $\frac{1}{2}$ Rix-dollars are equal to	£ 1 Sterling.
125.....do.....do.....do...	100 Dollars Hamburg banco.
123.....do.....do.....do...	100 Holstein dollars specie.
116.....do.....do.....do...	100 Dollars Dutch currency.

SWEDEN AND NORWAY.

CHAPTER I.

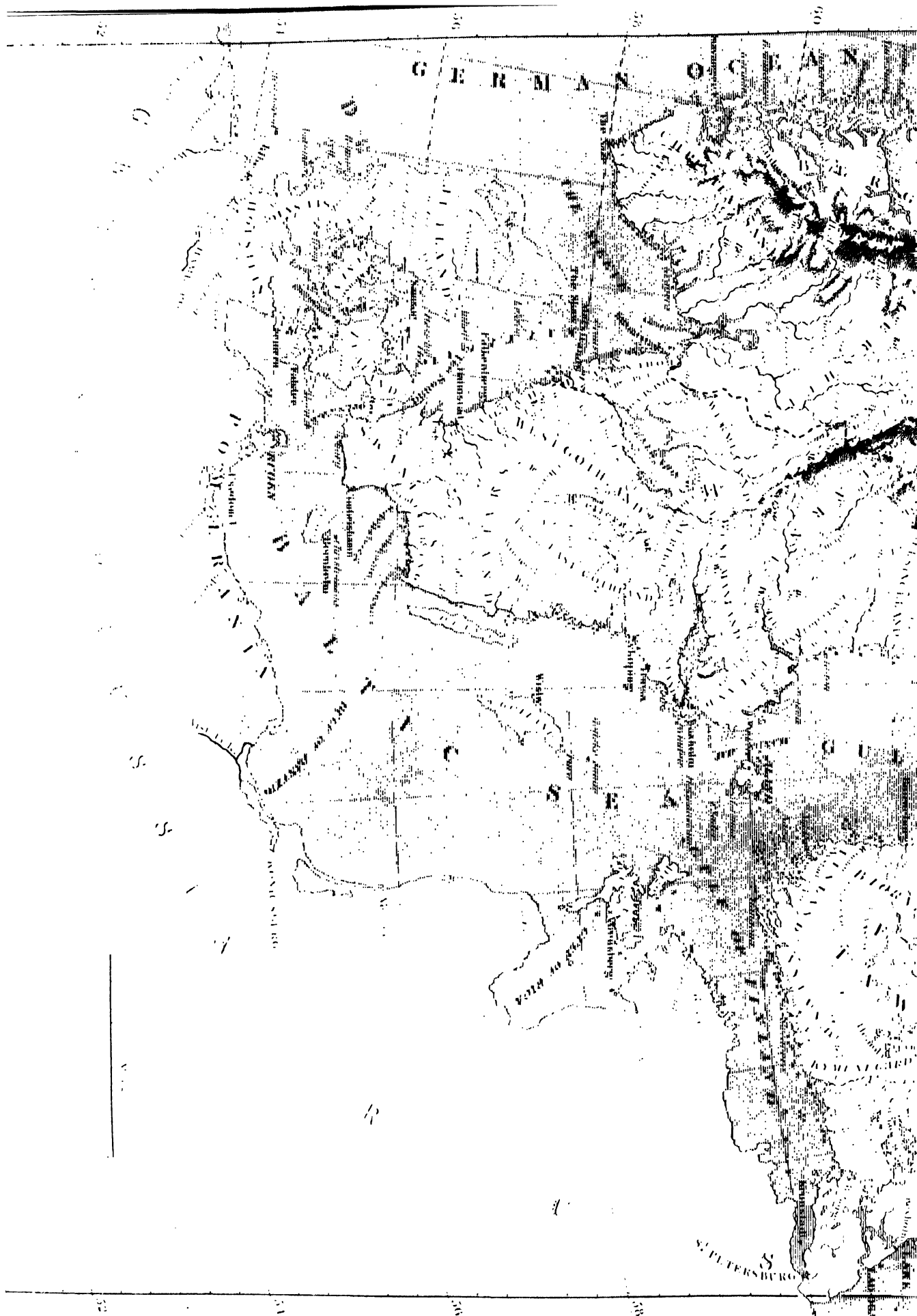
Name—Situation—Boundaries—Extent—Population—Original Inhabitants—Progressive Geography—Present Division, and Distribution of the Inhabitants.

SWEDEN and NORWAY, which form the great Scandinavian Peninsula, are now united in one kingdom. They occupy the north-western regions of Europe, and stretch from the 56th degree of latitude to within the Arctic circle. The NAME of the first of these countries is derived from the ancient *Suithod*, which afterwards became *Sweireke*. Northern antiquaries suppose this appellation to have been adopted to denote a country, the woods of which had been destroyed by fire. As the present name was bestowed on this part of Scandinavia about the time of Tacitus, it is doubtless the Suithod of the ancients, softened by the Roman enunciation. The derivation of NORWAY, which was the ancient NORRIK, or northern kingdom, is equally obvious.

From the promontory of *Scone*, which forms the southern part of these dominions, in latitude 55° 20', this vast region stretches to the southern point of Europe, in the 72d degree of latitude, and is nearly 1200 miles from one extremity to the other. The western shore of Norway runs through the 6th degree of east longitude; but, as the northern part of the country inclines to the east, the extremity of Norwegian Lapland in that direction reaches the 33d degree. The greatest breadth of this peninsula is near the 60th degree of latitude, and is only about 450 miles, but in some places the breadth of both Norway and Sweden is less than 300 miles.

The general BOUNDARIES of these territories are the North sea, the Baltic, and the Dominions of Russia. The northern and western shores are washed by the Arctic ocean, the North sea, the Seager Rack, and the Cattegat, while a great part of the southern and eastern borders upon the waters of the Baltic and the gulf of Bothnia. From the upper extremity of the latter, the line of demarcation, as fixed by the treaty concluded between the two countries, in the autumn of 1809, is formed by the rivers Tornea and Muonio. This wide region, considered merely with respect to the ocean, is nearly insular, as the part by which it is attached to the continent, on the north-east, extends only from about latitude 66° to 70°, or nearly 280 miles, while the whole extent of coast greatly exceeds 2000 English miles.

To the fact, however, that this portion of the globe is wholly encompassed by water, Dr. Clarke bears the following testimony. Referring to the *Alpine* barrier between *Finmark* and *Lapmark*, he observes, "The most remarkable thing is, that a lake exists upon this barrier so exactly situated upon its upmost level. that

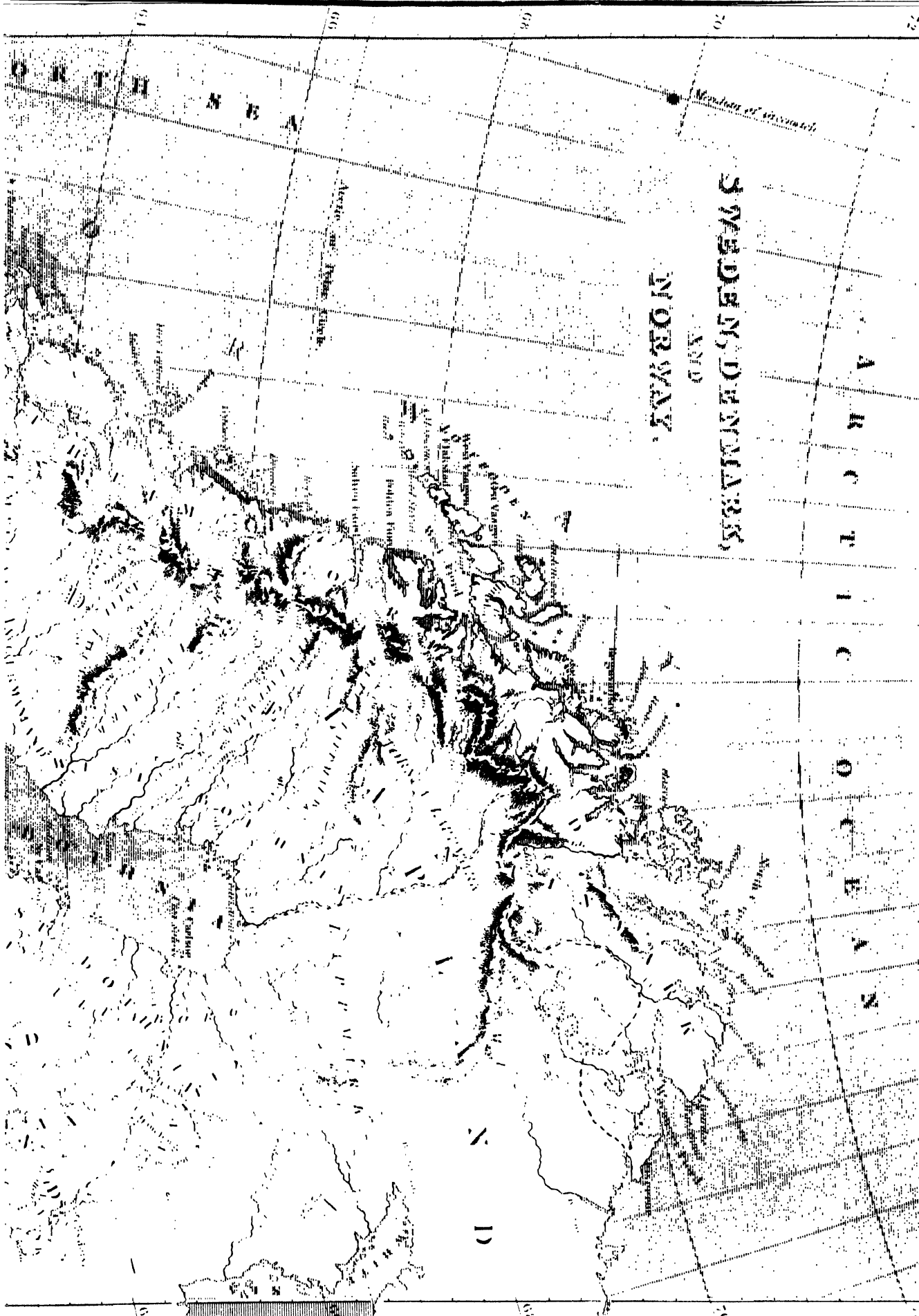


A R C T I C O C E A N

SWEDEN, DENMARK,

AND

NORWAY.



a river flowing out of its *southern* extremity falls into the gulf of *Bothnia*, and another river flowing out of its *northern* extremity falls into the *Icy Sea*; both these rivers issuing from the same lake;—thereby insulating the whole of Scandinavia; which, owing to this circumstance, is entirely surrounded by water.”

Sweden is about 900 miles in length, but it cannot be estimated at much more than 200 of medial breadth. In a Statistical Account of the country, published at Stockholm, in 1816, the whole territorial surface is stated at 3781 Swedish square miles, and that of the lakes at 200 square miles. Now, as the Swedish mile is only 10 to a degree, the entire surface, according to this estimate, will exceed 180,000 English square miles. The present population being about 2,600,000, the average number of inhabitants for each square mile is nearly 15. Norway stretches through a space of 1140 English miles in length, but does not exceed 100 miles in medial breadth. Its superficial extent is about 110,000 square miles, and its population 900,000, which is, therefore, rather more than eight persons for each square mile.

The ORIGINAL POPULATION of the great Scandinavian Peninsula cannot, perhaps, at this remote period be traced with certainty; but the most learned antiquaries consider the *Fins* as its first inhabitants. These were succeeded, about seven or eight centuries before the Christian era, by the *Goths*; particularly in the southern regions, where the population is still purely Gothic, while, along the western shores of the Baltic, some remains of the Fins are yet found. The northern parts of the Peninsula are possessed by the *Laps*, or *Laplanders*, a diminutive race, resembling the Samoeds of northern Asia, and the Esquimaux and Greenlanders of the New World. The Laplanders, however, by an intermixture with the Fins, have had both their persons and language improved beyond those of the tribes to whom they bear this general resemblance. The Goths, who originally sprung from the regions east of the Caspian Sea, are a more noble race than their northern neighbours.

This peninsula was not wholly unknown to the Romans, for *Tacitus* describes the *Sitones*, as a people inhabiting its southern regions. Its PROGRESSIVE GEOGRAPHY, however, is extremely obscure till the time of *Jornandes*, who wrote in the 6th century, and delineated the various nations, who at that time inhabited Scandinavia. *Alfred* the Great threw still more light on the subject, particularly by the voyages of *Ohter*. Subsequently, the knowledge of these countries was rendered yet more general and correct by *Adam de Bremen* and the Icelandic historians. Both Norway and Sweden have sometimes been united to Denmark. The latter, however, has now constituted a separate kingdom for several centuries, but the former was, till very lately, an appendage to the Danish crown. Prior to the war with Russia, which was terminated by the peace of 1809, the territories of Sweden included Finland, on the east of the Baltic. This region, which formed nearly one-third of the Swedish dominions, and contained about a fourth of its population, was then ceded to Russia, and the natural boundary of the Baltic and the gulf of Bothnia adopted as the line of demarcation between the two kingdoms. Part of Pomerania, situated on the southern shore of the Baltic, remained attached to the Swedish monarchy till it was exchanged with the Danes in 1814, on the cession of Norway. By this act, the authority of Sweden was extended over the whole peninsula, from the promontory of Scene to the North Cape, and from the shores of the Baltic to the Arctic ocean and the North sea. Thus this wide region, which Nature seems to have distinctly marked as one of the political divisions of the globe, became again united under the same government.

These wide-spreading territories are divided into provinces, which, with the chief town in each, as usually given by Geographers, are as follow.

IN SWEDEN.		
<i>Divisions</i>	<i>Provinces.</i>	<i>Chief Towns.</i>
East Gothland	East Gothland Proper	Nordkoping.
	Smoland	Calmar.
	Oeland	Borgholm.
	Gothland	Witsby.
West Gothland	West Gothland Proper	Gothenburg.
	Wermeland	Carlstadt.
	Dalia	Aemal.
	Bohus	Marstrand.
South Gothland	Schonen	Malmoe.
	Halland	Halmstadt.
	Blekingen	Carlscrona.
Sweden Proper	Upland	STOCKHOLM.
	Sudermania	Nikoping.
	Nericia	Orebro.
	Westmania	Westeras.
	Dalecarlia	Hedemora.
	Gestrickland	Gewal.
Nordland	Helsingland	Hadwickswall
	Medelpadia	Sundswall.
	Jemtland	Ostetsund
	Herjedalia. (Scarcely contains a village)	
	Angermania	Hernaesund.
	Part of West Bothnia	Umea.

Swedish Lapland is also divided into districts, called *Lapmarks*, but these divisions are of too little importance to deserve particular enumeration.

IN NORWAY.

<i>Provinces.</i>	<i>Chief Towns.</i>	<i>Provinces.</i>	<i>Chief Towns.</i>
Christiansand	Christiansand.	Drontheim.....	Drontheim
Aggerhus	Christiana.	Nordland ...	
Bergenhus	Bergen.	Finmark	

The last of these provinces does not contain any town of consequence. In the whole of Finmark indeed, the traveller looks in vain for towns or villages. It is only on the coast that human beings are to be met with in any considerable numbers; and even there they are found in detached huts scattered along the shore, rather than collected into societies. The nature both of the country and of the climate conspires to render a large proportion of this kingdom very thinly inhabited. The great body of the population, in Sweden and Norway, is contained in the southern parts, while those that approach the pole are completely deserted for thousands of square miles. According to the most recent and correct estimates, the comparative population of the three great governments into which Sweden is divided, is exhibited in the following statement:

Nordland	1 75 inhabitants to a square miles.
Sweden Proper.....	20·89
Gothland	38·22

As the population of England is at least 190 to each square mile, it contains nearly 13 times as many inhabitants on the same space as Sweden, and 24 times the number of Norway. In most thinly-peopled nations, chiefly depending upon pasturage for their support, a great proportion of the inhabitants live in the country. This is strongly exemplified in Sweden, where the ratio is nearly nine to one. The number of people in Sweden, engaged in agricultural pursuits, are to all the other inhabitants nearly in the proportion of seven to five, while in England it is much less than half the population.

CHAPTER II.

Outlines—General Surface—Mountains—Forests—Rivers—Canals—Lakes—Climate—Soil—Culture—Produce.

THE OUTLINES of Sweden are not marked by any particular irregularity : few bays indent the shores of the Baltic, except that part of them on which Stockholm stands. The Gulf of Bothnia runs up the eastern side of this country to a high latitude ; but its extent appears to be gradually diminishing. On this point the testimony of a late traveller deserves particular attention. When M. *Von Buch* visited Tornea, in September 1807, in passing that town in a southern direction, he crossed several of the bays or creeks of that gulf which interrupted the road. “ Not,” he observes, “ in boats as was done in 1736 by the French mathematicians, for that was now rendered impossible. Large and beautiful bridges were built across the whole breadth. The sea bays have become marshes, from the continual decrease of the Bothnian gulf ; and we may soon expect to see fields and cottages on the surface now occupied by the gulf.” The opposite shore of the peninsula presents a complete contrast. There the impetuous waves of the Northern Atlantic have worn the shore into numerous inlets and islands. Instead of shallow bays, as on the eastern side, high cliffs frown over the tumultuous flood, with deep water close to their bases. Few of these small inlets, however, are capable of being navigated by vessels of large burden. On the most northern of the islands is the *North Cape*, where the imagination easily pictures the Genius of Winter as having fixed his dreary abode, and where, shrouded in storms and tempests, he sits brooding over the agitated deep.—*See the Plate.*

In tracts so extensive as those occupied by the surface of Sweden and Norway, the general aspect of the country must be greatly diversified. Their geographical position, however, precludes those variegated beauties which adorn many of the southern regions of Europe. The GENERAL SURFACE of Sweden is marked with the rude and picturesque features of a northern clime, but is rather rugged than mountainous, except near the confines of Norway. It is greatly diversified with extensive lakes, clear and rapid rivers, torrents, and cataracts ; while the dark impervious forest is contrasted with the verdant vale, and the stupendous rock with the cultivated field.

Norway is one of the most rugged tracts in Europe. Mountains, woods, and lakes, alternately succeed each other almost without intermission. The sides of these mountains are frequently clothed with forests of pine. On the lower parts of their acclivities they assume a majestic magnitude ; but in ascending, the trees become stunted, and the towering pines change into the diminutive shrub. Here the ground is covered with a thick carpet of rein-deer moss. The highest summits are clad in the garb of perpetual winter, and are buried beneath indurated masses of ice and snow, which bid defiance to all the genial influence of the hottest northern summer. The following brief extracts afford a good idea of the general aspect of the country. The one relates to the more elevated parts, the other to the low tracts which are sometimes found along the shores. The highest station occupied by the French, in their determination of the northern degree of latitude, was Pullingi, about 1000 feet above the level of the Bothnian gulf. Having ascended this eminence, and surveyed the beautiful windings of the river Tornea, with its culti-

vated and comparatively populous banks, *M. Von Buch* thus proceeds: "A small way, however, from the river into the country, all appeared a huge and boundless forest, interrupted by nothing but the empty space, occupied here and there by small lakes, and the small blue mountains along their banks. The tract of the river alone is inhabited and animated; the remainder is dreary and dead." The description which *Dr. Clarke*, in his *Travels in Scandinavia*, gives of the general appearance of Sweden, corresponds with this view. "If the reader," he observes, "cast his eyes upon the map of *Sweden*, and imagine the gulf of Bothnia to be surrounded by one continuous unbroken forest, as ancient as the world, consisting principally of *Pine-trees*, with a few mingling *birch* and *juniper* trees, he will have a general, and tolerably correct, notion of the real appearance of the country. If the Sovereigns of *Europe* were to be designated each by some title characteristic of the nature of their dominions, we might call the *Swedish* monarch, *Lord of the Woods*, because, in surveying his territories, he might travel over a great part of his kingdom, from sun-rise to sun-set, and find no other subjects than the trees of his forests. The population is every where small, because the whole country is covered with wood. The only region with which Sweden can be properly compared, is *North America*; a land of wood and iron, with very few inhabitants."

In reference to the *Arctic* regions of these dominions, the same animated traveller, with a peculiar felicity of description, remarks, "It is true as *Linnaeus* said of this country, that it is the land of *peace*; but it is the *peace* of unbroken solitude, into which, if man presumes to penetrate, his first interrogations are answered by the howling of wolves and bears; and, at every step he takes, the stings of venomous insects inflict excruciating torments. When he looks around him, a wide and trackless forest extends in every direction, in which there is a character of sameness so little varied, that *dulness* rather than *peace* may be said to reign with supreme dominion. Many a weary league is passed without meeting a single animal. The *quadrupeds*, except beasts of prey, are seen only near the solitary dwellings. Birds are scarce, and the human race may be considered among the greatest rarities of the country. A single tent, more like a mole-hill than any habitation of man, in the midst of some forest, or upon the summit of some mountain, harbours a few wretched pigmies, cut off from all communion with society; whose dwarfish stature, and smoke-dried aspect, scarcely admits of their being recognized as intellectual beings."

The great central ridge, which separates the two countries, has already been described in the *GENERAL VIEW OF EUROPE*. From this chain, various branches diverge to the east and west, and impart a mountainous character to the country on each side; particularly to Norway. About the 63d degree of latitude, this range divides into two branches. One of these enters Sweden, stretches towards the south-east, and gives a mountainous character to that part of the country. The other runs obliquely from the point of separation, towards the southern extremity of Norway. North of this division, the whole chain preserves a position nearly parallel to the western coast. The appellation of *Lang-fjeldt*, or long mountain, has been given to the southern part of the Norwegian chain; *Dovre-fjeldt* to the central part; and *Kjölen* to that which skirts the borders of Norwegian Lapland. Many of the highest summits of these northern Alps have also obtained particular names; but it would be equally tedious to specify, and difficult to remember them. The highest point in this range, as in many others, are near the middle, from which they decline in height towards each extremity. The loftiest summit is in the 62d degree of latitude, and forms a kind of central point from which the ramifications proceed. It is here, in the principal chain of the *Dovre-fjeldt*, that the pyramidal *Snechüttan* rears its

towering point to more than 8100 feet above the level of the sea, and reigns the undisputed sovereign amidst the barren peaks of this peninsula. The altitude of this summit was determined a few years since by M. *Esmark*, who carried a barometer to the top, and is supposed to be the only individual who ever reached that point. Very few of the other summits attain the height of 6000 feet, and many of them do not exceed 3000. Dr. *Clarke* observes. “It is the peculiar character of the Norwegian mountains to combine the grandeur of Alpine Scenery with the dark solemnity of the groves of *Sweden*, and the luxuriant softness of the *vales of Italy*.”

The following are the heights of a few of the principal Mountains of Lapland, Norway, and Sweden. They were given by M. *Hisinger*, in a public Lecture delivered at the Academy of Sciences, at Stockholm, and afford a good idea of the height of the most elevated parts of these countries above the level of the sea.

Lapland	{	Sulitelma	5515 feet.
		Norden Top	6178
		Vallispitz, near Quickjock	4370
Norway	{	Sneehättan highest point	8120
		Near the north Cape, about	3520
Sweden	{	In Dalecarlia, near the Norwegian bor-	
		der, the heights vary from about	3200 to 4260

Another distinguishing feature in the landscape of these northern regions is the FORESTS, by which such immense tracts of country are covered, and which clothe the sides of the rugged mountains to a certain height. These generally consist of pines, Scotch firs, and birch, particularly in high latitudes, where the severity of the climate precludes the oak from vegetating. These hardy tribes of the vegetable kingdom grow luxuriantly in the most favourable situations, casting a deep and solemn shade over the face of the country, and not unfrequently forming a striking contrast with the snow-clad summits of the highest mountains.

A peculiarity in the Norwegian landscape is the elevation of the farm-houses. In reference to a mountainous part of the country, Dr. *Clarke* gives the following lively representation. “High above the woods appear farm-houses and cultivated lands, and, at a still greater elevation, forests; then a fleecy track of clouds; then upland farms and forests again; and in the upmost range, glittering in æther, snow-clad summits, of all else, except their icy mantle, denuded, bleak, and bare. As the view, after extending over all their tops and shining heights, descends amidst the aerial habitations of the upland farmers, it sees with surprise, immense herds of cattle feeding at an elevation so extraordinary, that even the actual sight is scarcely to be credited.” In the vicinity of Tornea, the birches seem to attain their greatest perfection, for, according to M. *Von Buch*, they rise above the spruce and Scotch firs, and are majestic trees.

Numerous RIVERS, Lakes, and Streams diversify the surface of Sweden and Norway; but as most of them descend from the high central ridge to the sea, their courses are short, their torrents rapid, and they are frequently rendered unfit for the purposes of navigation by rocks and cataracts. Few of them, therefore, require description. The three principal ones are the Gotha, the Motala, and the Dal. The first two, like most of the other Swedish rivers, have their sources in lakes. A few others are also large streams.

The GOTHA is the most important river in Sweden, and forms the only outlet to the water of the lake Wener, which it connects with the Cattegat. This is a broad and beautiful river, affording many highly picturesque views, adorned with

rocky islands and waterfalls, one of which exceeds 60 feet in perpendicular height. Though the navigation of the Gotha is thus interrupted, many vessels are to be seen on it in various parts. It abounds with excellent fish, particularly salmon, and is about 50 English miles in length.

The MOTALA issues from the lake Wetter, and flows in an easterly direction till it falls into the Baltic. Like the Gotha, its course is short, and the only town of any importance on its banks is Nordkoping. Before the Motala reaches this town, it is too small to answer the purposes of navigation, but it flows through one of the most beautiful and fertile vallies in Sweden. Below that town it admits vessels, and serves as an outlet for the conveyance of its manufactures and commerce.

One of the principal of the Swedish rivers is the DAL, originating in several sources on the eastern slope of that branch of the Norwegian mountains which diverges into Sweden. It rises about the sixty-second degree of latitude, and after flowing in a south-east direction, and having received several tributary streams, it bends to the east, and subsequently inclines more towards the north till it enters the Gulf of Bothnia, after completing a course of more than 250 miles. Before this river reaches the sea, it presents a cataract little inferior to that of Schaffhausen, in Switzerland. The breadth of the Dal is here about a quarter of a mile, and the height of the fall 40 feet. The surrounding scenery also is calculated to give effect to the falling torrent. Towards the end of its course, this river is so full of islands, and so incumbered with rocks, that noble and beautiful as it is, it cannot be rendered subservient to the purposes of navigation.

The Ljusna is a large river, whose waters, collected from all the tributary lakes and rivers in its course from the Norwegian Alps, form a vast torrent, clamorously and impetuously foaming and rolling to the Bothnian Gulf. This river, in its progress, expands into several beautiful lakes, where all the light and elegance of the distant sheets of water are combined with the tremendous force of the thundering cataract.

The river ANGERMANNA is one of the noblest streams in Sweden. In some places it is an English mile and a half in width, and contains many beautiful islands, on one of which there is a church and some villages. Like all the large rivers on the west side of the Gulf of Bothnia, it rises in the mountain barrier which separates Norway from Sweden, and soon becomes augmented by streams from the lakes in the districts through which it passes. "It displays one of the finest scenes of water in the world. The Rhine exhibits nothing grander, nor are the banks of that river any where more beautifully adorned."

Several rapid streams descend from the mountains further to the north, which, when fed by the melting of the snow, roll their impetuous floods into the Gulf of Bothnia. Most of these, as well as many other Swedish rivers, have the termination *Elv*, or *Elf*, affixed to them; as the *Umea-Elv*, *Petea-Elv*, *Lulea-Elv*, *Kalia-Elv*, which, with the river Tornea, now forming the boundary between the Swedish and Russian dominions, are the principal of those that flow into the Gulf of Bothnia. The *Umea* issues from a great lake in West Bothnia, and falls into the sea at the town of Umea, near the 64th degree of latitude. The *Skelleftea* flows from another lake in the same province, and enters the sea about $64\frac{1}{2}^{\circ}$ of latitude; while the *Pitea* rises in the western part of the Lapland Alps, in the 67th degree, and joins the Gulf of Bothnia about the 65th degree. The *Lulea* derives its origin from a chain of lakes among the same Alps, and terminates in the sea about 30 miles north of the Pitea. Formed by the union of several streams, which descend from the flanks of the Lapland mountains, the *Tornea* becomes a

large river, and flows nearly south till it meets the northern extremity of the Gulf of Bothnia.

Norway contains numerous streams, but few large rivers. The largest river in Norway is the *GLOMME*, or *GLOMEN*, which issues from the southern declivity of the Dovre-fieldt mountains, and, after a southern course, falls into the sea near the northern extremity of the Sleeve. Navigation is rendered impracticable on the Glomme, by cataracts and shoals; but about 50,000 trees are annually floated down its stream to Frederickstadt, a port near its mouth. It receives the *Worm* which flows through the lake Mioss; but before the confluence of this last, the Glomme is a large river, which, with the elevation of its source, and the ruggedness of its channel, renders it a tremendous torrent after heavy rains, or the sudden melting of the snow. Its whole length is about 300 miles.

The *DRAMME* originates on the east side of the Lang-fieldt mountains, and falls into the sea west of Christiana Bay, after being swelled by the *Beina* and some other streams. The proximity of the mountains to the west coast of Norway, and the rapid declivity of the surface, admit only of mountain torrents. The harbours are formed by the creeks and arms of the sea, rather than the estuaries of the rivers, as in more level countries.

Much attention has been bestowed, and large sums of money expended, upon the inland navigation of Sweden, by the government; but the result has not always been commensurate either with the expense incurred or the expectations excited. An inland connexion between the sea at Gothenburg and the capital, has always been a favourite speculation with the Swedes. The three great lakes of Mœlar, Hielmar, and Wener, which are nearly in the line of its direction, greatly facilitated the undertaking, and after various unsuccessful attempts, the greater part has now been completed. The *Canal of Trollhatte* is cut to avoid the cataracts in the river Gotha, and has been excavated through the granitic rocks at a vast expense. From this canal the navigation is continued to the sea by the Gotha. The great benefit resulting to the country from the completion of this canal is evinced by the circumstance, that nearly 1400 vessels have passed through it in one year, almost all laden with native produce. The *Canal of Arboga* connects the lakes Mœlar and Hielmar; hence the only remaining part of the line is that between the lakes Hielmar and Wener.

The *LAKES* of Sweden and Norway are numerous and extensive. The whole surface covered by those of the former country is stated by Swedish statistical writers at 200 Swedish square miles, equal to 9577 English square miles; which is nearly one-nineteenth of the entire surface of the country. The largest and most noted of the Swedish lakes are Wener, Wetter, Mœlar, Hielmar, Stor, and the Hernasba Staer, or great lake. Some of these are beautifully transparent, and not only adorn the country, but are of essential service to the inhabitants as the means of inland navigation, and of producing an abundant supply of fish.

Lake *WENER*, which may be regarded as an inland sea, uniting the inhabitants scattered round its coast, is situated principally in the 59th degree of latitude, and not far from the western shore of the country. Its length is about 90 English miles, and its breadth nearly 50. It is fed by about twenty streams, which descend from the adjacent eminences. It is nearly surrounded by forests, and bordered with rocks of red granite. It is also well stored with fish, and adorned with numerous rocky islands.

WETTER is situated south-east of lake Wener, which it equals in length, though in few places more than 20 miles in breadth. Its direction is nearly parallel to the western shore of the Baltic. It is remarkable for the agitations it frequently experiences in the calmest weather. These are ascribed by naturalists

to subterranean winds and exhalations. The waters of this lake are deep and clear, and it is fed by about 40 tributary streams, but it has only one outlet, in the Motala, already described. The surface of the Wetter is broken by several islands; and on its shores are found agates, cornelians, and pieces of fine basalt.

MœLAR is on the north-east of Wetter, and is about 60 miles long, but less than 20 broad. It contains several islands, some of which are three or four miles in length; and at its conflux with the Baltic stands Stockholm, the capital of the kingdom. The beautiful islands in some parts of this lake, covered with woods, produce the most pleasing effect. A late traveller asserts, that between *Tibble* and *Barkarby*, the views are so grand, and the scenery of the Mœlar and its islands so delightful, that "nothing can equal it in Europe, excepting only that of lake *Locarno* in Italy; nothing surpass it, excepting that of *Loch Lomond*, in Scotland."

The lake HIELMAR lies between the lakes Mœlar and Wetter, with the former of which it has been connected by a canal. Its length is nearly 40 miles, but its medial breadth is not more than 12. Like those already described, it is diversified with islands. Both the STOR and the HERNASBA are large lakes. The former is situated in Jemptland, and the latter in Lapland. Many other lakes in Sweden present much varied beauty, and some of those in the northern regions of the kingdom are celebrated by *Maupertuis* for their picturesque scenery.

Near the southern extremity of Norway is the lake MIOSS, or MIOSEN, which exceeds 50 miles in length, but is very narrow, except in the central part, where its breadth is nearly 20 miles. It contains an island about 10 miles in circuit, which is fertile in pasture, wood, and grain. The long and narrow RAN-SION is situated north-west of Mioss. It is nearly 50 miles long, but not more than three in medial breadth. This lake, which is situated on the Norwegian Alps, through which the whole current of the Ljusdal flows, is considered by Dr. *Clarke* as one of the most magnificent in Europe, and as exceeding any other in its combination of rural scenery with the sublime objects of nature. He observes, "mountains, islands, bays, promontories, broken shores, towering forests, hanging woods, sloping fields, cottages and farm-houses, with all the flood of waters, light and life about it, make it, perhaps, the grandest and most perfect association of the kind existing." The lake TYRI is a beautiful sheet of water, situated between Ran-Sion and Christiana. It forms an expanse nearly 15 miles each way. Its environs are variegated and pleasant, and its borders cultivated, and backed with high mountains. Further north, and near the confines of Sweden, is FœMOND, exceeding 30 miles in length, by about eight at its greatest breadth. This lake is embosomed in mountain, and is situated nearly 3000 feet above the level of the sea. Many other lakes exist among the northern mountains of Norway, but they are too little known to be correctly described, and too little visited to deserve it.

Regions stretching through so many degrees of latitude, and possessing such diversity of surface and exposure, must also present a corresponding variety of CLIMATE. The geographical situation of this peninsula, however, stamps the whole with the character of a cold country. The gradation of climate is, therefore, only from what can barely be called temperate to that which must be pronounced severe. Though the air is in general keen and penetrating, the climate is not insalubrious, and it is less liable to sudden changes than that of several more southern countries. Its salubrity admits of an easy comparison with that of England, from the circumstance that the number of deaths in Sweden is 1 in 43, and in England 1 in 49. In Wales it is higher. Thunder is seldom heard, and earthquakes are scarcely ever experienced. The interposition of the Norwegian mountains defends Sweden from those heavy falls of rain to which some of the western countries of Europe are subject. These, indeed, often descend so copiously

on the western side of this chain, as to deluge the lower tracts. In most parts of the Peninsula, summer and winter divide the year, the transition from the one to the other being so rapid, that spring and autumn are scarcely perceptible. In the northern parts, the summer is short, but the sun does not set for several weeks together. This, with the reflection from the mountains, sometimes renders the heat oppressive. The winters, on the contrary, are long and inclement; and frost so intense, that the Gulf of Bothnia becomes one vast sheet of ice, over which travellers pass. (See page 5.) The sea, even at the southern extremity of the country, is usually frozen. The winter is sometimes very severe in Sweden, and the cold extremely rigorous. In these cases, the mercury in the thermometer sinks several degrees below *Zero* in Fahrenheit's scale; as in the winter of 1813-1814. At such seasons, the faces, legs, and arms of persons are frequently frozen; and even death is the certain consequence of long exposure to the influence of the frost, for exercise alone is inadequate to keep the vital fluid in circulation. Mr. *James*, who witnessed the effects of the intense frost at the above mentioned period, observes, "the north-east wind, during such weather as this, is a chill blast of death that exceeds in horror any other curse of heaven." During the long absence of the sun in the middle of winter, the dreariness of the night—the death-like pause in nature—is cheered by the brightness of the moon and stars, the reflection from the surface of the snow, and the frequent brilliancy of the *Aurora Borealis*.

The temperature and moisture of the atmosphere, with the prevalence of serene, foggy, or stormy weather, depend greatly upon local causes. The vicinity of the sea, which gives Sweden almost the advantage of an insular climate, causes the temperature of that country to be less than of those further to the east, though under the same latitude. The mean annual temperature of Stockholm, for instance, exceeds that of St. Petersburg by nearly 4 degrees of Fahrenheit's thermometer, though not only the latitude of each, but their distance from the sea, is nearly equal. But this difference falls chiefly upon the winter months, during which the temperature differs by 7°·5. In the six summer months, the difference is only 2° in favour of Stockholm. The mean heat of July and August, the two hottest of those months, the thermometer stands higher at St. Petersburg than in the Swedish capital, by a mean of 1°·8.

From a Register kept by the Academy of Sciences at Stockholm, it appears, from a mean of 50 years' observations, that July is the hottest and January the coldest month of the year; and that the medium temperature of the one is 64° and that of the other 24°; while the annual mean is about 42°. The results for the different months are as follow; and from the length of time the observations were continued, and the care employed in making them, it cannot be doubted but they form a very near approximation to the truth.

Mean height of Fahrenheit's Thermometer.

January.....	24°	July.....	64°
February	26°	August	58°·5
March	29°	September	50°·7
April	38°	October	41°·5
May	52°·5	November	34°·5
June	59°	December	26°·5

The greatest height to which the thermometer rises at Stockholm has been found to be 84°; and from the preceding statement it appears that October must be classed with the summer months, and April with the winter, for the mean temperature of the former exceeds that of the latter by 3°. A register has also been kept for a considerable period at Upsal, from which it appears that the mean temperature

is generally about one degree lower than at Stockholm; but in this latter place, the weather is more obscured by fogs, and the moisture of the atmosphere is greater.

As the Gulf of Bothnia stretches far to the north, and confers nearly an insular climate on the regions near its shores, there is very little difference in the mean temperature of Umea and Ulea. The chief variation between these two places is in the months of March, April, and May, during which the difference is only a few degrees. These places are situated on the opposite shores of the gulf, and Ulea about a degree and a half nearer the pole. Such is the influence of local causes, that Tornea, situated at the very extremity of the Bothnian gulf, and nearly in 66° of latitude, being favoured in this respect, has a much milder climate than many other places in a lower latitude. On this subject, *M. Von Buch*, who visited Tornea, in the autumn of 1807, has the following remarks. "The greatest part of September was now past. I was hourly expecting the snow, yet wishing to flee from it before the earth was permanently covered. Like many others, however, I had rated the climate of Tornea too low: for they were still living here in a pleasant autumn. The air was calm, clear, and still. It froze a little in the night, but the rays of the fore-noon sun soon dissipated the ice. The sun afforded a gentle heat at mid-day, and with pleasure I went about the country in this temperature. The thermometer rose to 50 degrees of Fahrenheit, and sunk in the afternoon very slowly. The trees were yet in full glory, and no where had they lost any of their leaves. A firm snow track was not expected here till the end of October, and it is seldom earlier. September is at Tornea, what October is in the north of Germany; and the polar region does not vindicate her violated sovereignty till the end of November."

At the village of Enontekis, in Lapland, situated on the bank of the river Tornea, more than 200 miles north-west of the extremity of the Bothnian Gulf, and approaching the Norwegian Alps, a register was carefully kept for several years by the Rev. *Eric Grape*, and the results communicated to the Stockholm Academy of Sciences, by Dr. *Wahlenberg*. The latitude of the place of observation was 68° 30', and the results are very singular. The mean of the year is 26° 85, and that of February 0° 55, yet the mean temperature of July was 59° 63. In consequence of this high state of the thermometer during the summer months, the country is not only capable of producing several kinds of trees, but even pot-herbs. This affords an exact analogy with the climate of Siberia. On the eastern side of the Norwegian Alps, the temperature depends chiefly upon the height of the place, and its distance from the seas; but on the opposite side of these mountains, the change of latitude has the greatest effect. In many parts of Norwegian Lapland, the annual temperature is almost equal to that at Upsal, about 8° farther south; and hence many plants of more southern climes flourish there. Towards the northern extremity of the peninsula, however, though the winters remain comparatively mild, the summers are too cold for most plants to vegetate at all. This is shown in the following curious table of the mean monthly temperature of Mageröe, near the *North Cape*, drawn up from the observations of *M. Von Buch*, who spent some time there in 1807.

Mean height of Fahrenheit's Thermometer.

°		°	
January	22°08	July	46°42
February	23°16	August	43°70
March	24°71	September	37°62
April	30°02	October	32°00
May	34°07	November	25°75
June	40°14	December	25°74

The same traveller states that in latitude 70°, the thermometer rose, on the 13th of July, 1807, to 80°·3 of Fahrenheit's scale, and that it often stood at 70° or 72° during the middle of the day. The mean temperature of that amount was 63°. Even at Kielvig, on the coast not far from the North Cape, it sometimes rises to 65°. There the winters are less dreaded on account of the cold than the storms, the fury of which, exceeds all description. "They sweep down the field with the utmost impetuosity from the west and north-west. All is agitation; no sound can be raised, no human voice is audible for the raging of the elements. The inhabitants endeavour, in sullen expectation, to secure themselves with double clothing and furs, against the cold, and are compelled to satisfy the cravings of hunger, with what little they can find around them; for no fire burns, and the rocking house is perpetually on the point of falling about their ears:—a dreadful situation, which frequently continues for days. These storms generally make their appearance when the sun begins again to rise above the horizon, but it is very remarkable, that they always diminish at evening, and are less violent throughout the night. At break of day, they return with their former fury. They may be more terrible at Kielvig than at other places along this coast, but these powerful hurricanes in winter, are, however, peculiar to the whole coast of Finnmark."

A striking difference also exists in the quantities of rain that fall in Norway and Sweden. On the west side of the mountains it must be very great, from the frequent torrents in which it descends. Towards the east coast of Sweden, the following quantities fall in the southern, middle, and eastern districts. More, doubtless, falls in the west, and near the mountains. The three places, with the results of the observations, are.

Lund.....	18·29 inches
Upsal	15·37
Uleaborg	14·35

Sweden does not enjoy the advantage of a propitious SOIL. In many places there is scarcely any, and that little is of a cold and sterile quality. Sand and sandy clay prevail, more or less, in most districts; and black earth, except in a few of the vallies towards the north, is not often met with. A judicious system of agriculture, however, would render most parts of the country much more productive than it has hitherto been. In the southern districts of Norway, the soil has a great similarity to that of Sweden in the same parallel; but much of the mountainous parts consist either of rocks rising naked above the surface, or else covered with moss, or clad in snow. Peat earth and morasses also occupy a considerable portion of this surface, and not only preclude cultivation, but often limit the tracts of upland pasture. That AGRICULTURE has not yet obtained in Sweden the attention it deserves, is sufficiently obvious from the small proportion which the arable land bears to the whole surface of the country, the diminutive size of the arable farms, and the little stock they maintain. The proportion of arable land is stated by Dr. Thomson at one 62nd of the whole area of the country; or, if Nordland be excluded, on account of its climate and situation, to one 32nd part. The whole arable land in Sweden is stated at 1,818,450 English acres. The portion in a state of cultivation is 1,363,838, and that lying waste 454,612 acres. From an account drawn up in 1811, it appears that the average quantity of arable land to each Swedish farm is about 27½ English acres. The quantity of grain annually sown in Sweden is consequently extremely small, and the return seldom more than five-fold; so that the whole quantity of grain raised in Sweden amounts only to about one-fifth of a bushel per each individual.

The grain principally cultivated is rye, big, oats, and wheat. The first grows in a

light soil, and therefore is well adapted to many parts of the country; but at present it occupies the ground that a more skilful culture would dedicate to the growth of wheat, which is almost exclusively confined to the southern districts, and particularly the plains of Upland, in the vicinity of Upsal, where it is grown in the greatest quantities. But the culture of this valuable product might be extended much further north; for Dr. Thomson says that he saw a fine field beyond the 60th degree, quite ripe in 1812, which was an unfavourable year. The valley of the Tornea, as described by M. *Von Buch*, may also be cited as an example of what industry can effect in favourable situations, though in a latitude approaching the extremity of Europe. Turnips and artificial grasses have been very little cultivated by the Swedish farmers, and consequently the quantity of stock they are enabled to keep through the long winter is comparatively small. During the latter half of the 18th century, according to the tables published by Baron Hermelin, at Copenhagen, in 1805, it appears that the cultivators in Lapmark have been doubled. The southern parts of Norway resemble those of Sweden, and the same products are raised. But in the more mountainous regions cattle are the chief objects of attention. These, as in Switzerland, are driven to the mountains in summer, where they find pasturage for a few months, and then return to the low country for the remainder of the year. In Finnmark and Lapland the rein-deer occupy the place of other herds and flocks. What the field is to the husbandman, the rein-deer is to the Laplander; and what the plough is to the farmer, his dog is to the Laplander. By him the flock is kept together, driven from place to place, and defended from the ravages of the wolf. When, therefore, he returns to his *Gamme* (a hut in the mountains) he willingly shares his frugal fare with his dog, with as much freedom as he would with his father or mother.

Two societies of rural and domestic economy have lately been established in Norway, the one at Christiana, and the other at Asker. Under their fostering care the agriculture of the country has begun to improve.

Both the nature of the country and the climate preclude the vegetable kingdom of this peninsula from possessing that richness which belongs to more favoured districts. The common kinds of grain, grass, and fruits, are produced in the southern parts; but the last will not grow in the northern regions. Rye and oats are cultivated in some of the vallies, and pastures adorn the lower hills, while the mountains are covered with rein-deer moss, or clad with forests of fir, pine, and birch. The sap of these, either as pitch, tar, or turpentine, is also a valuable article of commerce; and the inner rind of the bark, powdered and mixed with rye-meal, supplies the inhabitants with coarse bread in time of scarcity. These trees, with the white-beam, the mountain ash, the alder, and a species of cherry, are the principal ones that flourish in the northern regions. The oak, the ash, the elm, the lime, and some other kinds that grow freely in the southern districts, are incapable of bearing the severity of the Lapland climate. The disappearance of the oak, indeed, in approaching high latitudes, as well as in ascending elevated mountains, is an evident mark of the deterioration of the climate; and the manner in which the line of this disappearance declines, in passing from the great ocean eastward, across the northern part of Europe, deserves particular notice. At the iron-works at Harness, a little south of *Geffle*, M. *Von Buch*, as he descended the western shore of the Bothnian Gulf, met with the first oak, which he observes was the last that was known to *Linnaeus*, as he was travelling into Lapland. With respect to the appearance of the oak, this traveller remarks, "The course of the boundary of oaks in the northern regions is singular. It distinctly demonstrates the manner in which the climate deteriorates with the distance from the great ocean. In Norway the oaks grow vigorously in the interior of the sea-bays, at Christiansund, and at Molde almost

as high as 63°, and even at Drontheim they are not altogether extinct. Harness on the other hand, does not lie higher than 60° 40'. On the other side of the Bothnian Gulf, oaks scarcely go beyond Abo; in the Finnish bays they only cover the coasts to Helsingfors, and on the south side they cannot penetrate beyond Norva, in Ingria, so that they do not even reach sixty. *Georgi* relates that the Czar Peter I. ordered oaks to be planted at Petersburg. They grew indeed to the thickness of a man, but irregularly, and with a decayed appearance quite unsuitable to their age and nature. On the road to Moscow, they first appear on the banks of the river Masta; and although the country does not rise in any considerable degree, their boundaries in an eastern direction towards Siberia are to be found in the neighbourhood of Ossa, between Cassan and Catherinenburg, in the latitude of 57½°."

Of the immense FORESTS in the Swedish possessions, the following summary affords a good idea. When the question relative to the propriety of allowing the export of timber in foreign vessels at the same rate of duty as in native ships, was discussed in 1817, Baron *Edelkranz*, the President of the Assembly, made the following statement. Of the 24 governments, the 13 most populous alone contain 2400 square miles (which being Swedish miles of only 10 to a degree, each is nearly equal to 49 English miles) or 45 millions of tons of land covered with wood. As 6000 cubic feet are the smallest annual produce of one ton of land, (so called from its being calculated to produce a certain quantity of corn,) it follows that 120 square miles are sufficient for the consumption of the mines, of the lime-kilns, of the tar-manufacturies, fences, ship-building, and fuel; and the produce of 2280 may be spared for exportation.

Now as the whole exportation of 5,000,000 cubic feet require only four square miles to grow again in 100 years, the imagination is confounded at the immensity of the treasures which nature annually produces, and again suffers to decay without use, in those solitudes; and every patriot must be grieved when he sees that so small a part of them turns to the advantage of the country. A single parish lately offered to the crown a forest covering 50,000 tons of land, or three-fourths of the extent used for our whole exportation of timber, in order to be excused from paying a certain contribution levied upon it.

Many species of vegetables are common both to Britain and Scandinavia; nor is the flora of the latter much inferior to that of the former. The chalk hills and southern coast of England present many species which are unknown in the northern peninsula, but a great variety of Arctic plants flourish there which England does not possess. The cloudberry, one of the most abundant and grateful of the Scandinavian fruits, grows on the spongy Alpine rocks, and by the sides of the streams that roll down the rugged mountains. The cranberry grows in much greater perfection in their bogs than in the English marshes. Red-currents, whortleberries, and stone-brambles, are valuable fruits in these northern regions, where they are kept under the snow till winter, and when mixed with rein-deers' milk, which is preserved in a congealed state, they form an agreeable variety in the Lapland diet. Many species of heath and other plants also adorn the upland districts.

The domestic ANIMALS of Sweden present little that is remarkable, except in those regions where the rein-deer has been domesticated, and rendered subservient to almost all the wants of man. The horses are generally small, but often beautiful, and extremely active. A larger kind, like those in Holstein, are bred in the southern parts of Norway. The cattle and sheep of the hilly parts are small like those bred on the mountains of Wales or the Highlands of Scotland; but the breed has been improved in many of the lowland districts. There is also a species

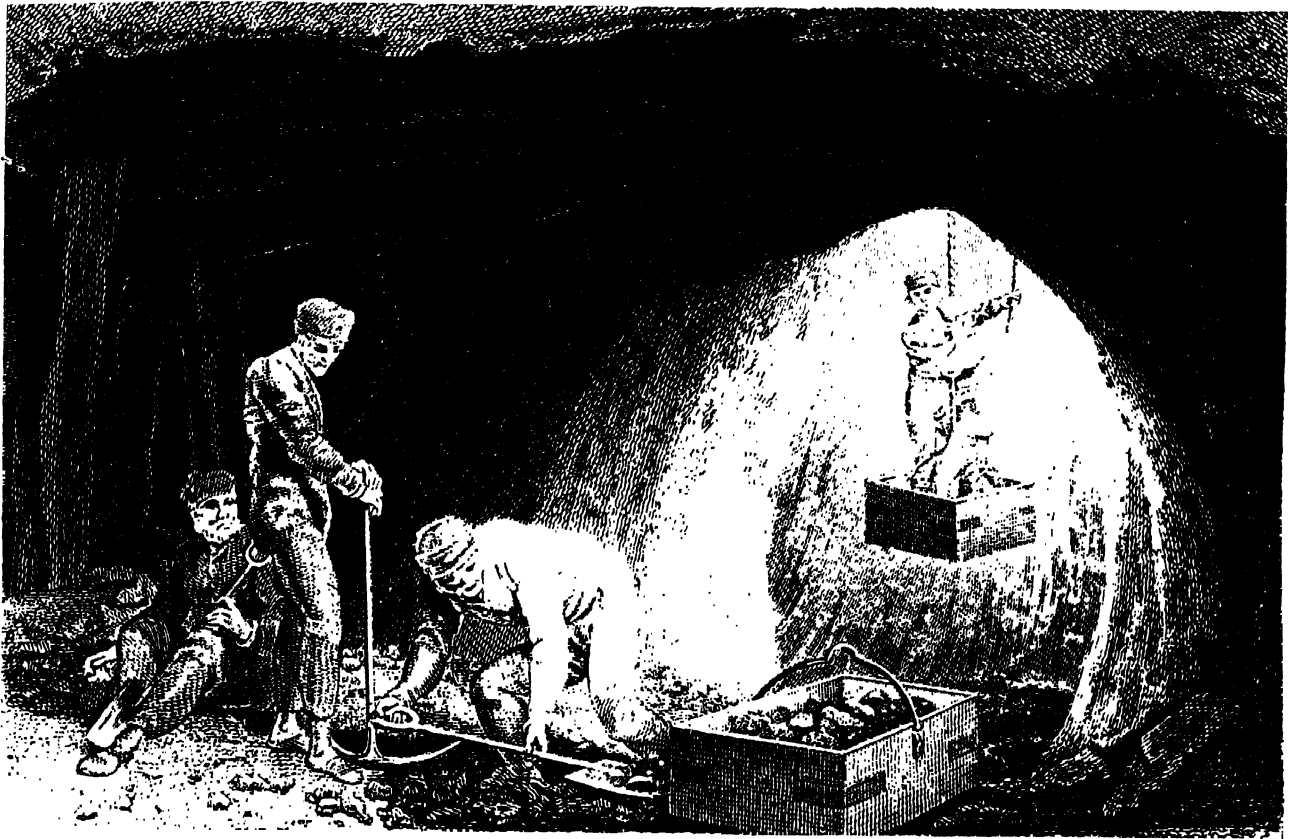
of cow of a peculiar breed in Lapland. They are all white, and about the size of a small English calf. They are very pretty animals, and give excellent milk. From a curious table drawn up in 1811, showing the number of each kind of stock, and their distribution, it appears that Sweden then contained 403,747 horses, 1,475,748 cattle, and 1,212,752 sheep. This number, in comparison with the extent of the country, is extremely small, and wholly incompatible with a prosperous state of agriculture. With respect to the horses and cattle, it is only about a fourth of the number kept in England and Wales, and that of sheep is not more than a twentieth, but as Sweden is three times as extensive as South Britain, the real proportion of these domestic animals is not more than *one-twelfth* in the former instance, and *one-sixtieth* in the latter. Pigs are numerous in some parts, but goats are seldom seen. In the northern regions, the rein-deer supplies the place of both horses and cattle. But so completely is this animal fitted to the intense cold of these latitudes, that it cannot support the milder temperature of the southern parts of the Scandinavian peninsula.

The beasts of prey which range the woody recesses of Sweden and Norway are the bear, the wolf, the fox, and the lynx; but they are not so fierce as in the southern parts of Europe, for they seldom attack either men or the larger kinds of animals, unless impelled by extreme hunger. The stag, the hare, the squirrel, the beaver, the ermine, the seal, and several other species of the smaller quadrupeds abound in the forests; and game is plentiful in most parts. The skin of the hare becomes white during winter, but returns to its primitive colour after that inclement season. The mountains of Kiölen, or Kölen, may, with propriety, be regarded as the strong hold of that curious animal, the Lining, or Norwegian rat, which sometimes issues from these recesses, and proceeds towards the sea, in such countless myriads, that they spread desolation in their course, till stopped by the ocean. When they have consumed every thing in their way, they either devour each other, or are lost in the ocean, as it is said that none of them ever return. Rabbits are seldom found, except in a tame state. Sweden likewise contains about three hundred species of birds, among which are most of those common to other parts of Europe. The *Falco umbrinus* is sometimes met with in Sweden, though not often. Water-fowl are numerous, both on the coast and in the interior. Fish is plentiful, and forms a valuable article of food.

Both Sweden and Norway are rich in MINERALS. The number of metals found in Sweden amounts to eighteen; among which are gold, silver, copper, iron, tin, lead, zinc, cobalt, and antimony. The others are of the inferior kinds. The most abundant are lead, copper, and iron. Norway also contains most of these metals. In gold it is inferior to Sweden, but its silver mines are more productive.

Gold has been obtained at Adelfors, in the province of Småland, where it occurs sometimes in a native state, but more generally in veins of calcareous spar, in a rock of mica slate. This metal has also been found in other parts of Sweden, as in the mines of Basna, where minute particles are found in beds of hornblend. In Norway, gold has also been worked at Edswold, in the province of Aggerhus, which is about 30 miles north of Christiana. Here the veins are composed of compact quartz, iron ore, flint, and very small particles of that precious metal. So small was the quantity, that about 300 tons of the rock, which was annually pounded, did not yield more than the value of 1500 dollars. In fact, the gold mines of both countries were so unproductive, not defraying even the expense of working, that they have been abandoned.

Native Silver is sometimes found in Sweden, but it is generally mixed with galena. The mine of Sala, or Salberg, is about 25 English miles west of Upsal, but is not rich in metal. In the mine near Norberg, the metal is found in



calcareous stone, and lead ore is used to extract it. Both gold and silver have been discovered in Swedish Lapland, but neither of them has yet been worked. The annexed plate exhibits an interesting view of the interior of the Swedish silver mines.

The principal silver mines of Norway, are those of Kongsberg, which yield larger masses of this metal than any other mine in Europe. These pieces often weigh four or five pounds each; and one block of this native silver, which is preserved in the Royal Collection at Copenhagen, is valued at £600. This mine was discovered in 1623, employs about 2500 men, and produces silver to the value of £54,000 annually. Silver is also found in other parts of the same province, but in smaller quantities.

The most productive of the *Copper* mines are in Dalecarlia, which is the great Swedish depôt of this metal. One of the principal of these mines is near Fahlun, and has been worked for several centuries, but yields much less than formerly. The metal is not found in veins, as in many other places, but in large masses; and the whole of the ore seems to have originally formed a vast cone, placed with its apex downwards. It was long worked with so little care, that about 160 years ago the upper part fell in. The rubbish, however, has now been removed, and the mouth of the mine presents an opening of about three quarters of a mile in circuit, and 200 fathoms in depth. The descent is by an easy winding staircase, and the galleries are spacious, some of them being 30 feet in height. Dr. *Thomson* states the number of miners employed in 1813, at 600; but it had previously been much greater. Dalecarlia also contains several other mines of iron, copper, and lead. To the last, the Swedes generally give the name of silver mines, as it is chiefly for the sake of this metal, which is extracted from the galena, that they are worked. Copper is also found in the province of Jemtland; and the whole quantity annually obtained from the Swedish mines, has lately been stated at 22,000 quintals of 100lbs each, which is nearly one-ninth of the quantity yielded by Great Britain and Ireland.

Copper is also abundant in the province of Drontheim, the most celebrated mines of which, are those of Roeras, about 70 English miles south-west of that town. These were discovered in 1644, and are situated on the southern slope of the Dovre-fieldt mountains, nearly on a level with the line of perpetual snow. The ore is found in veins from a few inches to several yards in thickness; and the annual produce is about 2300 Swedish ship-pounds, or more than 300 tons. The net profit is estimated at 150,000 rix-dollars. Mines of this metal are also worked at Quickne and Selboe, about 50 miles east of Drontheim; as well as in some other districts. The whole annual produce of the Norwegian copper mines, is stated at 8000 quintals.

Iron, however, is the metal for which Sweden is most celebrated, and from which the greatest advantage is derived. The mines of Danemora, in the province of Upland, are considered as yielding the best iron in Europe. Most of it is conveyed to the port of Oregrund, where it is shipped for England, under the appellation of *Oregrund Iron*. It is principally used in making the finest steel. These mines have no subterraneous galleries, but resemble large gravel pits, and are about 50 feet in depth. The ore is so rich that it yields from 30 to 80 per cent. of metal; and the whole quantity annually obtained exceeds 25,000 tons. The number of men employed in working them is about 1500.

The noted mountain of *Taberg*, in the province of Smaland, is one entire mass of iron ore, except in a few places, where the veins are separated by layers of earth. This metallic pile is about three English miles in circuit, and 420 feet above the surrounding country. Iron is also obtained in various other districts in

Sweden, and in Lapland the ore is stated to be extremely rich in metal. The principal places where it has been discovered, are in the neighbourhood of Tornea, Lulea, and Pitca. Near Lulea, the mass is said to be one Swedish mile in length, and three or four hundred fathoms in breadth. The ore is of a dingy blue colour. The number of iron mines in Sweden is stated, by Dr. Thomson, to be 176, and the quantity of iron procured from them 431,137 ship-pounds, which is nearly equal to 65,000 tons.

The Iron mines of Norway are principally in the province of Christiansund, and in the vicinity of Arindal the ore is often intermixed with a bed of limestone. It is more easily fused than the ore which is obtained at other places, with which it is often mixed, to promote the fusion and improve the metal.

Lead mines are also worked near Sala and Norberg. Those at the former place yield pure antimony, and those at the latter Molybdena. Cobalt is found at Basna, and mines of it were opened in Norway, in 1776. Lead is procured in the neighbourhood of Kongsberg, in Norway. Tin is only found in small quantities in the vicinity of Fahlun. Alum is obtained near Christianstadt, and coal in the same province.

Sweden abounds in various other mineral substances, among which are limestone, calcareous spar, marble of different colours, quartz, and rock crystal. Some kinds of green garnets are also found, which are not common in other parts of Europe. The value of the whole produce of the Swedish mines, independently of those of Norway, was estimated in 1813, at 8,000,000 of crowns.

Sweden and Norway are either deficient in mineral waters, or they have not obtained that notice which is generally bestowed upon them in other countries. The most celebrated springs are at Medevi, in East Gothland.

Wien



Die Ruine der Burg zu Wien



CHAPTER III

Principal Cities, Towns, and Buildings.

STOCKHOLM, the metropolis of Sweden, is romantically situated near the confluence of the lake Mœlar with the Baltic. It stands on several small islands and peninsulas, formed by the inlets of the sea, and has a safe and commodious harbour, which is rendered difficult of entrance by the rocks and islands that impede it. About three centuries ago the place where Stockholm now stands contained only a few fishermen's huts, scattered on a barren Island. The situation, however, being favourable as a commercial depôt, the buildings and population increased, which, in addition to its having been made the abode of royalty, about the middle of the 17th century, instead of Upsal, have converted a dreary village into a large and flourishing capital. The population is nearly 180,000 individuals. The amphitheatrical form of the city gives it an imposing aspect. At the extremity of the harbour, several streets rise one above another, and the whole is crowned by the magnificent palace of the sovereign. (See the plate.) Most of the houses in the city are built of stone; those in the suburbs are chiefly composed of timber, painted red. The streets are in general broad, but the inequality of the ground renders them inconvenient. The insular parts of the city are connected by bridges between the town and the sea. The following description of the appearance of this capital is given by a late traveller.

"It is a singular and wonderful town. What romantic views of islands, waters, rocks, hills, and vallies! All that we assemble together in our dreams of distant landscapes, is here united in the circumference of one town. Whatever there is grand in nature, is to be found in the neighbourhood of the finest monuments of art. It is true, we do not observe here the astonishing magnificence of Naples; but we have in place of it such an indescribable diversity of prospects and impressions, that for years, perhaps, we may search in vain before we find them again. How beautiful is the situation of the citadel, from which we overlook almost the whole of the town, as it ascends the declivities from the water! How charmingly solitary are the rocky banks at Rorstrand and Carlsbergwick, in which elegant country houses are hid in the clefts! How magnificent the view from the rocks of Södermalm, of the interior of the town, the ships in the harbour, the islands, the boats, and of the woods and rocks opposite to the menagerie! The streets are laid out with so much art, that at a great distance, and the most remote parts of the town, we have always the large buildings or churches in view, and are always employed upon distant objects. Through the long Drottning-gata we see the church of Catharine in the Södermalm; through the Storgata we see John's church; and the Riddan-gata, the church of Adolphus Frederick. Such variety is not to be found in any other town of Europe."

Among the most prominent buildings and Institutions in Stockholm, are the royal Palace, St. Catharine's church, the Dock-yard and Arsenal, the Royal Observatory, the Academies of Sciences and Painting, with some other literary institutions. All these claim the stranger's attention, and are calculated to reward the curious inquirer. The manufactures of Stockholm are not numerous, but they are in general flourishing. They consist chiefly of glass, porcelain, silk, woollen,

and cotton goods, for their own supply, and likewise some sugar refineries. The vessels employed in the trade of this capital mostly belong to Sweden, for the duties on all goods imported in foreign ships are very heavy. The principal exports are iron, steel, copper, pitch, tar, and timber. The quantity of iron annually exported is about 400,000 ship-pounds. The imports are chiefly salt and colonial produce. Refined sugars and hardware are both prohibited.

GOTHENBURG, or *Gottenburg*, is a fortified town, and the second in Sweden, both in point of commerce and population. It is founded on a singularly romantic site, near the south-west extremity of West Gothland, and is about three British miles in circuit. This town is situated near the mouth of the river Gotha, and stands partly on a marshy plain, and partly on a ridge of barren rocks, with which the plain is surrounded. In the upper part of the town, the streets rise above each other in the form of an amphitheatre. Some of the modern buildings are of brick, but the greater number are constructed of wood, and painted red. The population has lately been estimated at 25,000. The harbour is spacious, and the foreign commerce extensive. It was in the most flourishing condition, when the English vessels were excluded from the continental ports. Gothenburg then became a *dépôt* for various articles of British merchandize and manufacture. The principal exports are herrings, iron, tar, and deals. The chief imports are colonial produce, as coffee, sugar, cotton-wool, spices, tobacco, rice, and salt. These are chiefly sent from Liverpool.

The small and venerable city of UPSAL, or UPSALA, was not only the ancient capital of the kingdom, but is the only archbishop's see belonging to the Swedish church. It is situated at the entrance of a large and fertile plain, about 35 English miles north of Stockholm, and contains the most ancient and celebrated of the Swedish Universities, as well as the Observatory, through which the first meridian of that country passes. The old town, which stood near the site of the present city, was celebrated in the earliest records of the north, as the principal place of sacrifice, in the times of Pagan superstition, and the residence of the chief priest of Odin. The present town is small, but neat, and is divided into nearly two equal parts by the river Sala. The houses are generally composed of wood, though a few are of brick and stuccoed. The streets are at right angles to each other. The population is between three and four thousand, besides six or seven hundred students belonging to the University. The Cathedral was founded about the middle of the 13th century; and is a large Gothic structure, handsome in its external appearance, and chaste in its internal decorations. The library belonging to the university comprises about 40,000 volumes, and deserves the attention of the traveller. The Botanical Garden is also worthy of notice. The former was planned by the celebrated *Celsius*, and the latter by the great *Linnaeus*.

CARLSCRONA, is situated on a bay of the Baltic, and was founded on an insulated rock, by Charles XI. in 1680. The houses, like those in most of the other towns of Sweden, are built of wood, but are in general well constructed; and the population amounts to about 13,800. Carlscrona is not only a sea-port of considerable trade, but the principal *dépôt* of the Swedish navy. The harbour is capable of containing 100 vessels, and its entrance is defended by two forts, and commanded by others in the interior. The chief objects of attention at Carlscrona, are the docks, which are separated from the town by a high wall. One of these was cut out of the solid rock, and was completed in 1714. The new dock is semicircular, and much larger than the old one; but after £25,000 had been annually expended on it for some years, the vastness of the undertaking caused it to decline, and it has not yet been completed, according to the original plan. The town contains the various requisites of a naval arsenal; and the principal exports

are timber, tar, potash, tallow, and marble. Its situation is about 220 miles, nearly south-east of Stockholm.

NORDKOPING is a town of great trade, and advantageously situated at the confluence of the Motala, with the Baltic. The population is about 8000; the principal manufacture is that of fire-arms and other military weapons. Its chief exports are iron and copper.

FAHLUN is a considerable town, situated on the border of the mining district, and the capital of the province of Dalecarlia. Most of the inhabitants are employed either in the mines or the forges in the vicinity. Except the churches and a few houses, which are built of brick, and roofed with sheets of copper, all the other buildings are constructed of wood. The number of forges in the town and neighbourhood give it a very sombre appearance. Fahlun is in a great measure encompassed with mountains, which are clothed with pines, and the most celebrated of the Swedish copper mines are situated in its vicinity. It is about 160 English miles north of Stockholm, and its population nearly 5000 individuals.

CARLSTADT, is the chief town in the province of Werneland, and is situated on the island of Tingwalla, formed by two branches of the Clara-Ely, which afterwards unite, and fall into the northern part of the lake Wener. This city is about a mile and a half in circumference, and was built by Charles IX., from whom it derived its name. The streets are broad and straight, but the houses are all constructed of wood. Even the Bishop's palace is composed of the same materials, and resembles a large manufactory. The Cathedral alone is built of stone. A little commerce is carried on across the lake, particularly in iron and wood. The number of the inhabitants is about 1500.

MARSTRAND, from the strength of its situation, has been denominated the Gibraltar of Sweden. It stands on the eastern side of a small rocky island, in the Cattegat, and contains about 1200 inhabitants. The harbour is large and commodious, but difficult of entrance. It is also defended by batteries. Marstrand carries on a small trade, and many of the inhabitants are engaged in the fisheries.

LUND is the capital of Scania, and is one of the most ancient towns in Sweden. It is now of importance only as the seat of a university, founded by Charles XI. This abode of literature has a provision for twenty-one professors, and about 300 students. The principal subjects to which the attention of the students is directed are Natural History, Chemistry, and Agriculture. The cathedral is an ancient irregular building, which has been constructed at different periods. The population is about 1000, independently of the students in the university.

On ascending the western shore of the Bothnian gulf, UMEA, the capital of Westerbothnia presents a respectable appearance. It is situated in the 61th degree of latitude, and at the confluence of the Umea-Ely with the sea. Some of the streets are paved, many of the houses are neatly built, and there are sometimes several vessels in the harbour at once, which impart a degree of activity to the town, not common to those of so high a latitude. Umea contains about 1000 inhabitants.

TORNEA is now a Russian town; but before we quit these northern regions of the peninsula, another place must be noticed, on account of a single building which it contains. This is SKELEFTEO, respecting which a late traveller emphatically observes, "The road brought us at mid-day to several small hills. Here the woods opened; we issued out of them, and saw the extensive plain of Skelefteo, and the large stream which winds through it; and the church of Skelefteo rose in the middle of the plain like a temple of Palmyra in the desert. This is the largest and most beautiful building in the north. What a prospect! What an impression here in a latitude of 64° on the borders of Lapland! A large quadrangle; and on

each side Doric pillars, which support an attica. In the middle there is a large cupola, upheld by Ionic pillars ; and a clock, and lanterns above it. Why ? By what means ? By what accident came a Grecian temple into this remote region ? I asked the peasants who built it, and when it was built ? And they answered with no small degree of self-complacency : *We* built it, the congregation of *Almuen*. It cost us indeed great trouble and labour, seven long years, and an outlay of a large sum of money.—But who gave you the plan and the spirit to undertake it ? That I could not learn. What are we to think of a congregation capable of erecting such a building ? I learned for the first time in Stockholm, that the Academy of Architecture in Stockholm, draws the plans and sketches of every public building in the whole kingdom, and overlooks their execution on the spot. This is noble and grand. We need only the experience of Skelefteo to be convinced of this.”—*Von Buch*.

In describing a few towns in Norway, CHRISTIANA deserves the first place. It may justly be regarded as the capital of that extensive country, though Bergen possesses double the population, and is usually allowed the metropolitan honour. Christiana, however, is not only the residence of the principal constituted authorities and public bodies of the country, but its extensive influence over the greater part of Norway, the connexion of the inhabitants with foreign states, and their superior cultivation, and social modes of life, are all upon a higher scale than in any other of the Norwegian towns. Many of the requisites generally looked for in a capital, are therefore to be found in Christiana in a much higher degree than in either Bergen or Drontheim. The interior appearance of Christiana, is that of a neat and prosperous town ; the streets are not only broad and straight, but, as in many towns in Sweden, intersect each other at right angles, which gives a gay and animated appearance to the whole scene. Most of the houses are built of stone, those of wood being chiefly confined to the suburbs. When a Norwegian descends from the hills to Christiana, he regards the houses as exhibiting a specimen of unparalleled magnificence, for in many parts of the country, not a single house of the kind is to be seen, and there are even very few in either Drontheim or Bergen.

Christiana is situated in a fertile valley at the bottom of a gulf which penetrates the southern part of the country to the depth of about 50 miles. It is divided into several distinct parts, in each of which the exterior appearance, the houses, trades, and manner of living, are different. “The straight streets which cross each other at right angles, run up from the harbour, but do not extend all the way into the country. The capitalists, the wholesale dealers, the ship owners, those who hold government offices, find more room here than elsewhere for their large houses ; and the consequence is, a greater stillness, and almost a dead silence prevails in these streets. They are called the *Quartale*, and every person in the *Quartale*, according to the way of thinking here, is considered richer, finer, and more polished than the inhabitants of the other streets.” On the other hand, the houses are more closely crowded together in that part of the town which borders on the country, where the shopkeepers and artizans of all kinds reside. The harbour is good, and the trade extensive. The great annual fair, held in January, exhibits an incongruous assemblage from all the southern parts of Norway. The chief exports and imports are similar to those of the other ports of Norway, except alum and vitriol, which are obtained of a superior quality at Christiana. The public buildings most worthy of notice are those belonging to the Academy, (which was constituted a university in 1812,) the military school, the two theatres, and the prison. The population is about 9000.

BERGEN is the most commercial town in Norway, and is situated on a

declivity nearly encompassed by mountains. It surrounds the semicircular bay which forms a safe and commodious harbour; and is nearly in the same parallel with St. Petersburg, Stockholm, and Christiana. The houses are built of wood, which has caused the town repeatedly to suffer by fire. Situation, and other local circumstances preclude Bergen from participating in the advantages of agriculture and manufactures. Its inhabitants, who amount to about 15,000, are chiefly engaged in navigation, trade, and fisheries. This last branch of its industry employs several thousand people during the season in taking cod and herrings, which, after being cured, form a considerable article of export. The quantity of herrings annually exported has of late years been only about 12,000 barrels, but was formerly much more. Fish, iron, copper, pitch, tar, hides, and timber, are the principal articles with which vessels are freighted at Bergen. The imports are grain, wine, salt, hardware, sugar, coffee, and other colonial produce.

DRONTHEIM, or, as more properly spelled by Dr. Clarke, DRONYEM, is situated about 240 English miles north-east of Bergen, and is the most northerly city in Europe, except Tornea. It stands on a fine bay, and being seated at the union of four great vallies, it is favourably situated for trade, which renders it a flourishing city. With respect to the architecture and appearance of this city, a recent traveller, who visited it in his progress up the western coast of the country, observes, "Every time we proceed through the streets of Drontheim, we are struck with the beauty of the town, and yet it is altogether built of wood. I do not believe there are more than four stone houses in the whole circumference of the town, and these are miserable and inconsiderable buildings. But the wooden houses have an uncommonly agreeable appearance here, as, in every one we see, the endeavours of the possessor to ornament the exterior as much as possible, is strongly visible, and the endeavour is frequently crowned with success; for the delicacy of feeling and taste of the inhabitants is not confined to their mode of living, but extends to every thing around them. At least, I was impressed with the idea that there was a greater air of ornament, neatness, and beauty in this place than in Christiana; something more in the Dutch, or rather more in the English taste, than we perceive in any of the other Norwegian towns.

"This *Munkegade* is a noble street, such as few towns can boast of. It runs through the whole breadth of the town to the shores of the Fiord, and the buildings on both sides of the street are very respectable. The charming island of Munkholm, with the castle, rises in the background in beautiful perspective above the bright and clear Fiord, and the prospect is closed by mountains covered with snow, which rise above the water wholly in the distance. Nothing can be conceived more attractive. We should scarcely credit a drawing, however faithfully it might represent nature; but no drawing could convey the perpetual fluctuations of light on the works and towers of the island, and the deep ground which disappears in the blue ethereal mountains, the tops of which are illumined by snow."

The principal exports are copper, iron, timber, and fish. The iron is chiefly derived from the mines at Rocras. The imports are colonial produce, cloth, wine, and corn; with a little British hardware and a few other manufactured articles. Several hundred vessels, principally English, Irish, and Dutch, of small burden, annually enter the port.

The remains of the ancient and highly celebrated cathedral, prove it to have been a magnificent edifice; and some travellers have thought that it surpassed the great cathedral at Magdeburg. It contained the tomb of *St. Oluf*, to which the whole population of the north formerly went in pilgrimage. An elegant stone edifice, erected a few years ago, deserves particular notice, as being the only one of the

kind in Norway. This is the house belonging to the Drontheim Society of Sciences, and the high School. The school rooms occupy the ground floor, and the professors and masters the upper parts.

Very few of the other Norwegian towns are worthy description. The large mining town of KONGSBERG contains about 10,000 inhabitants; but being wholly supported by the mining interest, and situated in a comparatively barren district, it does not possess any peculiar features, or public buildings of eminence.

STAVANGER is a populous sea-port, in the province of Christiansand, and is situated in one of the best peopled and most fertile districts of the kingdom. The commerce consists chiefly of deals, tallow, hides, and skins. Stavanger also partakes of the trade in ore which is obtained in the neighbouring mines.

DRAMMEN is a considerable trading town, situated on both banks of the Dramme, where it enters the Gulf of Christiana, and contains a population of about 6000 individuals. The harbour admits only small vessels, which are chiefly freighted with iron and timber.

FREDERICSHALL is situated on the borders of Sweden, and though an open town, is celebrated for the sieges it has sustained. These have principally been supported by means of the impregnable fortress of Fredericstein, situated in the vicinity. One of the most memorable of these sieges was that in 1718, when Charles XII was killed in the trenches. The population is about 4000, most of whom are employed in the timber trade, with a few manufactures, which merely supply the local demand.

FREDERICSTADT is a small town at the mouth of the river Glomme, containing about 1000 inhabitants, who are chiefly employed in the timber trade. It is the most regular fortress in the south of Norway; but, like many other towns in that kingdom, it has suffered greatly by fire. It is about 40 English miles from Christiana.

The little village of ELVEBACKEN, from its singular situation and appearance, may be briefly noticed. This is a favoured spot in 70° of latitude, and a late traveller exclaims, "How beautifully rural Elvebacken appears at the mouth of Altens-Elv! It looks like a Danish village. The houses, to the number of about twenty, lie up the banks of the great stream in the midst of green fields and meadows, and surrounded with high Scotch firs in every direction." In reference to the vicinity of this rural retreat in the midst of the Arctic regions, the same writer observes, "What appears in the distance only wood and wilderness, on a nearer approach, immediately opens and displays to us meadows with houses scattered among them."

CHAPTER IV.

Manufactures—Fisheries—Commerce and Shipping.

THE MANUFACTURES of a country, like its other circumstances, must be judged by comparison. Those of Sweden, however, are as yet both few and imperfect. The natural productions, industry, skill, and capital of a country, must always have great influence in directing its labour into particular channels, as well as in regulating the quantity and quality of its produce. This is fully exemplified in the manufactures of Sweden. A few centuries ago, the inhabitants of the maritime districts were merely fishermen, and the towns were destitute of artificers. About the middle of the 17th century, the Swedes began to work their metals and woods. Manufactures of silk and steel were established, saw-mills were erected, foreign artisans invited and employed, and booksellers' shops were opened. Other improvements in national industry succeeded. The articles chiefly made, are woollen cloths, silks, cottons, hats, watches, sail-cloth, with those of iron, steel, copper, and brass. From a statistical account of Sweden, lately published at Stockholm, it appears that, in 1814, the woollen cloth made in that country was 183,000 ells of fine cloth, and 120,000 ells of the coarser kinds, which is far from being adequate to the domestic consumption. The same deficiency also exists in the quantity of silk and cotton. The total value of the Swedish manufactures, for that year, was stated at 5,622,129 crowns. The number of persons employed in the fabrication of woollen, silk, and cotton goods, has been estimated at between 15 and 20 thousand; and those engaged in the mines, at more than 25,000. Ship-building also occupies a number of the inhabitants.

In Norway, the manufactures are still more limited than in Sweden. The principal ones are the forges and foundries, salt-works, sugar-refineries, and the glass-houses, lately belonging to his Danish majesty. These, with the extraction of metals, the cutting of timber, and the manufacture of a few coarse woollen articles, for the partial supply of their own wants, constitute nearly the whole. The making of pitch and tar is also a source of employment to many individuals. There is likewise some earthenware made in the neighbourhood of Drontheim, and though this is not extensive, yet it is of importance in a country where suitable materials are every where scarce.

The FISHERIES form a valuable source of industry in both these countries, and not only afford a copious supply of food for the natives, but furnish one of the chief articles of their exports. Many vessels are constantly employed in the adjacent seas during the proper season for taking cod, herrings, and lobsters. Cod abounds in inexhaustible stores on the Norwegian coast; and these, when salted and dried, are exported to the southern countries of Europe, particularly to Spain and Italy. The herring fishery yields a plentiful supply both for home and foreign consumption. Vast numbers of lobsters are likewise sent from the coast of Norway to England and Holland.

Sweden and Norway are favourably situated for COMMERCE, being almost entirely encompassed by the sea, and having a number of secure ports. These circumstances, combined with the nature of their produce and wants, incline the Swedes to navigation and commercial transactions. Within the last century,

they have made such progress in this respect, that they now carry on an active intercourse with most parts of the world. Their iron, steel, copper, pitch, tar, and timber, are in constant request by the more southern nations; and the abundance of materials enables the Swedes not only to build vessels sufficient for their own commercial purposes, but also to become the carriers of several other less favoured nations. In addition to the preceding articles, hides, skins, tallow, and fish, are exported from Sweden. The quantity of iron annually exported, is about 400,000 ship-pounds, each about 300lbs English. Of these nearly 258,000 ship-pounds are shipped at Stockholm, from which port, in 1816, 4350 ship-pounds of copper, 600 of lead, and 4520 of brimstone, alum, and vitriol, were sent. The average export of timber from Sweden, is 57,000 balks, 23,000 spars, 175,000 dozen of planks and lath; the whole value of which is estimated at 900,000 rix-dollars. When the exchange is at par, of 4½ rix-dollars per pound sterling, this amounts to about £207,692. Norway exports, in the most favourable times, timber to the amount of nearly £1,250,000.

The Swedish Imports are principally grain and colonial produce, as sugar, coffee, cotton, indigo, tobacco, rice, pepper, wine, rum, and brandy; with salt and some other articles. Refined sugars, hardware, broad-cloth, cotton, porcelain, and various other commodities, are prohibited. Nearly all the imports are made in Swedish vessels, goods imported in those of other nations paying a heavy duty. Grain, and some of the mere necessities of life, which the bleak and inhospitable nature of their own country does not allow it to produce, are almost the only articles required by Norway.

Lapland has neither ports nor foreign trade of any consequence. The Swedish merchants receive furs, rein-deer skins, cheese made of rein-deer milk, and some other articles, principally prepared from these skins, in exchange for salt, tobacco, spirits, cloth, &c.

The number of ships that entered the thirty-one Swedish ports, in 1817, was 3130; and of those that left them, in the same period, 2984. The Board of Trade also issued licenses to 681 ships for foreign commerce. The total of the Swedish vessels that arrived at the various ports of Europe, with those of Asia and Africa, in the Mediterranean and the Black Sea, during the same year, including their different voyages, was 1764.

In 1814, Sweden possessed 1100 vessels, amounting to a tonnage of 70,000 lasts; and as each last is about six ship-pounds, or four-fifths of a ton, the aggregate burden of the whole was nearly 65,000 tons. In 1815, the number was reduced to 1036, and the lastage to 65,840, or about 52,672 tons. Both the number of sailors and vessels are supposed, since that period, to have decreased. From 1800 to 1815, there were 919 ships built in Sweden; but many of these were doubtless sold to other nations.

CHAPTER V.

Government and Constitution—Laws and Jurisprudence—Army—Navy—Revenue—Political Importance and Relations.

THE GOVERNMENT of Sweden is a *limited monarchy*. It has undergone various modifications during the last half century ; and though always limited in theory, it has sometimes been almost absolute. In 1772, the basis of the present CONSTITUTION was laid ; but the troubles that followed a few years afterwards, threw a great preponderance into the monarchical scale. In 1789, the king assumed the right of making peace and war, and of levying taxes for the support of his measures, without the consent of the Diet. But when *Gustavus Adolphus* abdicated the throne, in 1809, this body remodeled the constitution, and encompassed the royal prerogatives with more than their primitive limitations. According to the fundamental principles established by the Diet, in 1811, the crown is hereditary in the heirs male of the king, in the order adopted by that body, on condition that they profess the pure evangelical faith, as explained in the confession of Augsburg, which is the foundation of the established religion in Sweden. The king's person is sacred, and his ministers alone are responsible for the acts of government. The sovereign is invested with the supreme power, and the right of appointing all civil, military, and naval officers for the service of the country. His Majesty is assisted in the discharge of his royal functions by a Council of State, consisting of nine members, including the ministers and great officers ; who, as well as the king, must be members of the reformed church. Every thing relating to peace and war, and other connexions with foreign powers, is determined in this council. There are four Secretaries of State ; for war, for the interior, for commerce and finance, and for religion ; and under these are placed the several colleges or boards, for the management of these various departments.

In the formation of this constitution, the rights of the people were also considered, and the fundamental principles then established were the following. Liberty of conscience and free exercise in all matters of religion. Security of person and property, for no punishment can be inflicted except according to the prescribed forms of the law. For the more effectual preservation of justice, a council of twelve men, called the High Court of Appeal, is appointed. Half the members of this council must be noblemen, and the other half commoners. Their duty is to decide all cases of appeal from the inferior courts. The power of reprieve, and of the restoration of property, is vested in the king alone ; but the arguments of this court are heard in plea ; and the king's decision is always given in the council of state.

Besides the High Court of Appeal, there are two *Procureurs*, one of whom is chosen by the king, and the other by the diet. Their office is to prosecute any of the ministers or secretaries of state, before the proper tribunal, at the demand of a committee of the Diet. The king's prerogative not only enables him to appoint the officers of the crown, but also to dismiss them, by making known his reasons in the Council of State. Those in the department of justice are excepted from this power. They only vacate their situations by their own voluntary acts, or forfeit them on being proved guilty of some misdemeanour. The sovereign prerogative likewise extends to the appointment of Archbishops and Bishops, from a list

presented to him for that purpose. He also confers the rank of nobility, but these titles descend only to the eldest son.

The Swedish DIET embraces four distinct states ; the nobles, the clergy, the burgesses, and the peasants. These meet in separate houses, and assemble of right every fifth year ; but as much oftener as the king pleases to convene them. In the king and the diet, thus assembled, the right of taxation is vested ; but no law can be made, nor any existing statute altered, except by the concurrence of three of the four houses of the Diet, and the consent of the king. It is, therefore, in the Diet that the influence of the crown finds its barrier, and the privileges of the people their security.

Each branch of this counterbalancing power is constituted in the following manner. The head of each of the noble families in a direct line inherits a seat in the house of the nobles, and consequently forms an integral part of the Diet. If any of these members decline attending, his place is filled up by the next heir of the family. The number of members in this house is generally between six and seven hundred. The representatives of the clergy compose the second house. They consist of the archbishop, the bishop, and a certain number of other members, chosen by the clergy from among their own body. Each beneficed clergyman, and all the first and second masters of the royal schools, are qualified both for electors and representatives in this assembly, the number of which seldom exceeds 80. The third branch of the Diet is formed of the burgesses. They are chosen by 104 towns on which the privilege of sending members to the Diet has been conferred. Any tradesman who has been a freeman seven years, or an alderman three, is qualified for a representative. The number of members of this house is generally about 100. The representatives of the peasants constitute the fourth house. This term includes all who possess land of a certain tenure, who have never followed any trade, or held any civil office, and whose ancestors were also farmers. The land by which a peasant is qualified, either for an elector or a representative, must be crown land or personal property, and between the value of £30 and £600. The number of members of this class is usually more than 100, but, like the other houses, it is subject to variation. Hence, it appears that the Swedish gentlemen, who possess property exceeding £600 a year, and are not entitled to a seat in the house of nobles, are excluded from all representation in the Diet of their country. The archbishop of Upsal is always the speaker of the house of the clergy. The others are appointed by the king. When a bill is agreed to in one house, it is sent by deputation to the others, and if it receive the approbation of the majority of any three of the assemblies, it is transmitted to the king for his assent, upon receiving which it becomes a law. No person can be called to account, either for his words or actions, as a representative, except by that particular house to which he belongs. At each meeting of the diet, a committee is appointed for inquiring into the conduct of the Ministers, Council, and Secretaries of State.

The LAWS of Sweden have been characterized as mild and merciful. Many offences which, in other countries, are capitally punished, are there visited with imprisonment only, or some inferior penalty. Norway still retains the same laws as before its recent annexation to the crown of Sweden, and which are similar to those of the Danish code.

One of the most important of the laws of Norway, and which differs from those of Denmark, is that which secures the property of an individual to his direct lineal descendants. This is called the *Odelsrecht* ; and allows any one who can prove himself a direct descendant from the former possessor of any property to recover possession of it, by paying the purchase money to the stranger who may have bought it. But in order to preserve this right of re-entry, he must certify before

the proper tribunal, every tenth year, that he is prevented from recovering his property by want of money alone; and that he still reserves to himself the right of redemption. This privilege having been found inimical to the improvement of property, as well as the cause of frequent litigations, it has been enacted that the right of recovery shall expire after a lapse of twenty years from the date of alienation.

For the more speedy and effectual administration of justice, there is a species of assize held three times a year, in each of the provinces or districts into which the country is divided, and in which twelve persons, chosen by the district, and approved by the governor of the province, constitute a kind of jury. They hold their situations for life, and seven of them form a court. In all criminal cases, the judge demands their opinion, and when unanimous, it prevails against his own decision, when there is any difference between them. The prosecutor denounces the person accused to the king's officer of justice, who carries on the prosecution at the public charge, and free from all expense to either party. Courts of justice are likewise established in all the towns, and superior courts for the larger divisions of the kingdom. Without their ratification, no sentence of capital punishment passed in any of the inferior courts can be executed. Many abuses in the execution of the laws have lately been corrected, and the horrid practice of torture altogether abolished.

From an official statement, it appears that, in 1812, the Swedish Army was composed of the following troops: viz. regular army 35,000 men; reserve 50,000; new levy 7000, total 92,000 men. These troops have been greatly reduced by the return of peace; but, in consequence of the annexation of Norway, the present amount of the army cannot be estimated at less than 50,000 men. There is also a considerable body of militia, who are only called out on emergencies. The regular troops in Sweden are raised by the provinces, on a plan similar to our militia; each district supplying a certain number. During the absence of the soldiers, their fellow peasants are obliged to till the ground belonging to each soldier for the use of his family, so that they may not suffer while he is engaged in the service of his country. The officers have also houses and lands assigned them according to their rank; hence, in time of peace, they live among the peasants that have formed, and may again form, their respective corps. On the death of each individual these possessions descend to his military successor.

Some years ago the Swedish Navy included about 30 ships of the line, and a great number of smaller vessels; but it has since suffered considerable reductions, and is now less than half its former strength. The nature of the Baltic, with its numerous shoals, render smaller vessels, of a flat construction, more serviceable in the defence of the coast. Hence great attention is paid to the equipment of these galleys, both by Sweden and Russia. The naval estimate, published in 1812, comprises 6000 seamen and 3000 marine artillery, by the latter of which the flat-bottomed vessels are chiefly manned.

The annual REVENUES of the Swedish dominions are estimated at one million and a half. They arise principally from the rents of the Royal Demesnes, a part of the great tithes, import and export duties, a poll tax, together with imposts on mines, houses, servants, carriages, foreign spirits, and various other articles. This amount of revenue, however, was barely equal to the current expenses of government, and though the income has been increased by the acquisition of Norway, the expenditure has likewise been augmented in an equal proportion. The National Debt of Sweden is about 10 millions; and, as much of this is owing to Hamburgh, the paper money of that place forms a large portion of the circulating medium.

A reference to the territorial extent, the military renown, and the national

character of Sweden, would claim for her a higher place in the political system of Europe than she now occupies. But a great part of her territory is mountainous and barren, the climate is not genial, the population is extremely scanty, and the inhabited tracts not only cut off from all intercourse with the foreign nations, but with each other, and with the rest of the kingdom. This portion of the Swedish dominions and people, therefore, contributes little to the national prosperity, and perhaps less to its wants; for the flock, the field, the brook, and the chase, supply their limited necessities, while they afford them little to exchange for the comforts or refinements of life produced by the industry and skill of others. The low state also of agriculture, arts, and industry, in the whole peninsula, diminishes both its natural and artificial productions, and confines the Swedish exports almost exclusively to her woods and her metals. Hence her commercial transactions are chiefly with those nations that are either deficient in these articles, or who can readily furnish the few imports she needs. Britain, Holland, France, and the south of Europe are, therefore, most engaged in the commerce of Sweden.

A great extent of coast renders Sweden altogether a maritime nation, and her position gives her all the advantages of the Baltic; but, at the same time, it exposes her to the naval attacks of Russia, and renders an alliance with some other commanding state almost necessary to her security, against the preponderating influence of that power. *Prussia* is obviously the state with which such an alliance would be most natural; but, as the finances of Sweden enable her neither to equip and support a powerful navy, nor to bring a large army into the field without foreign aid, a close, commercial, and political connexion with England could scarcely fail of contributing essentially to her independence.

CHAPTER VI.

Religion and Ecclesiastical Geography—Education—Language and Literature—Arts and Sciences—Manners and Customs.

THE established RELIGION of Sweden is the Lutheran, under the episcopalian form. There is only one archbishop, that of Upsal, with sixteen bishops, twelve in Sweden, and four in Norway. The other ranks of ecclesiastics are deans, archdeacons, rectors, and curates. The number of parishes in Sweden is 2537; some of which are remarkable for their enormous extent. This inevitably deprives many of the inhabitants altogether of the benefit of attending public worship. The parish of East Bothnia, lately ceded to Russia, exceeded 150 miles in length, and was nearly 50 in breadth; and that of *Enontekis*, of which the Rev. *Eric Grape* was the late pastor, is of greater extent than the whole of Yorkshire. How inadequate, therefore, is the ecclesiastical division of the country to the purpose for which it was adopted!

EDUCATION is well attended to in Sweden, and there are few persons who cannot read and write their native language. There is a school in almost every large town, supported at the public expense, in which the elements of useful knowledge are taught. These schools are principally designed as preparatory to the larger academies, or *gymnasias*, of which there are 12, instituted in various parts of the country. In these the pupils are instructed in Latin, Greek, and Hebrew, as well as in the more common branches of knowledge. The students remain here till the age of 16, when such as are designed for the University are sent thither. The principal Swedish *Universities* are those of Upsal and Lund. The former generally contains about 700 or 800 students, and has long been celebrated for the number of learned men who have prosecuted their studies in it. The University of Lund is less celebrated, but it has usually more than 400 students, and several men who have been distinguished for their talents and attainments have studied there. A new College has lately been instituted at Stockholm, and the Universities are, at present, said to be in a very flourishing state. In the first quarter of 1819, there were 1197 students at Upsal, and 600 at Lund; and the total number of students, in the different establishments for classical literature, amounted to 3485. The University of Abo now belongs to Russia; and that of Griefswald, in Pomerania, to Prussia, though, till lately, both were in the possession of Sweden. The Academy at Christiana, in Norway, which has recently been raised to the dignity of a University, also belongs to Sweden. Education is so generally diffused throughout Norway, that all the peasants are able to read, and most of them to write. In every parish a schoolmaster is chosen, by the clergyman, from the most intelligent of the peasants, and the choice confirmed by the bishop. The poor are instructed either gratis or upon the lowest terms.

The LANGUAGE of Sweden, like the other Scandinavian tongues, is a dialect of the Gothic, and nearly related to the Danish, Norwegian, and Icelandic. As the English language also sprung in a great measure from the same source, there is considerably more similitude between it and the Swedish than might be supposed, without a close examination. With regard to inflexions, the Swedish

language has a greater resemblance to the Icelandic than to the Danish. In a region of such wide extent, however, much diversity of dialect must of course prevail. In the southern parts, which not only contain the great mass of the population, but where the intercourse with foreigners is most frequent, many French and German words have been introduced into the native tongue. The Dalecarlian, which is spoken in the north-west of Sweden, is one of the most remarkable of these dialects, and is frequently considered as a distinct language. This province being more remote from the intercourse with other countries, this peculiarity undoubtedly arises, in a considerable degree, from the ancient terms and idioms having been preserved in greater purity. The language of the Laplanders, who occupy so large a portion of the northern regions of Europe, resembles the Finnish, and is extremely soft, and rich in vowels. It has been said that such is the affinity between this language and the Hungarian, that the inhabitants of the two countries can understand each other without an interpreter. Norway, as well as Sweden, contains several dialects, but there is no Norwegian language in literature, it being identified with the Danish.

In the antiquity of its LITERATURE, Sweden has no pretensions to rivalry with the other Scandinavian nations. About the middle of the 17th century, the wisdom of Queen Christiana perceived the darkness which enveloped her country, and she invited foreigners to reside in it, for the purpose of expanding its literature and accelerating its improvement. Among these were *Grotius* and *Descartes*, and some other celebrated men, who laid the foundation of a literary fame, which began to spread beyond the bounds of the kingdom, during the enlightened and beneficent reign of Charles XI. Since that period many native writers have distinguished themselves in several departments of Literature and Science. The names of the justly celebrated *Linnaeus* and *Selsius*, would alone be amply sufficient to place the claims of Sweden upon an unshaken basis with respect to natural history. In this department also *Wallerius*, *Bergman*, and various others, have rendered themselves eminent. *Dalin* and *Lagerbring* are particularly distinguished by their historical expositions. Nor is Sweden destitute of poets and orators. She also possesses various Institutions for the promotion of Literature, Arts, Sciences, and general Knowledge.

In attaining this object, the Royal Swedish Academy of Sciences, at Stockholm; an Academy of Belles Lettres; an Academy of Painting and Sculpture; a Patriotic and Agricultural Society; and a Society for the Instruction of their Fellow Citizens, have all been highly beneficial. To these must also be added, the Academy of Sciences, at Upsal; and the Royal Society of Sciences and Belles Lettres at Gothenburg; with the Royal Physiographical Society at Lund. The strong natural genius of the Swedes, developed or promoted by their Institutions, has given birth to many useful inventions and discoveries; and in various departments of knowledge they are now able to maintain a rank superior to many of the southern, and apparently more favoured, countries of Europe. An intelligent traveller, who visited Sweden about twenty years ago, observes, in reference to this country, "It has produced *Linnaeus*, because *Natural History* is almost the only study to which the visible objects of such a region can be referred; and almost all its men of letters are still *Natural* historians or *Chemists*. Centuries may elapse before Sweden will produce a *Locke* or a *Montesquieu*, a *Paley*, or a *Dugald Stewart*, although it may never be without a *Wallerius*, a *Hasselquist*, a *Thunberg*, or a *Berzelius*."

In giving a brief sketch of the MANNERS and CUSTOMS of these widely-extended regions, considerable diversity of description must naturally be anticipated. The delineation will be rendered most perspicuous by treating the subjects

under the three heads of Swedes, Norwegians, and Laplanders ; and by introducing a few extracts from the most respectable travellers who have actually seen what they describe.

The superior classes of the SWEDES are brave, proud, ostentatious, luxurious, and hospitable. Their vivacity so far exceeds that of many of their neighbours, that they have been styled the French of the north. The men are robust and well made ; and the women slight and elegant. Their complexion, like that of other northern nations, is generally fair. The lower classes, especially the peasants in the interior, are simple, hospitable, honest, and industrious. They make their own houses, furniture, clothes, and other necessities. Mr. *Coxe* states, that the females of all ranks, in the middle provinces of Sweden, are singularly handsome, having most beautiful complexions, with a delicacy of feature unusual among the lower classes in other parts of the world. The men, also, in these provinces, are more lively and active than their southern countrymen, have a better figure, and more comely appearance.

As wheat is but little cultivated in Sweden, it constitutes but a small portion of the food of the inhabitants. All the common people live principally upon rye and barley, which they make into thin flat cakes. The houses are generally built of logs of wood, and covered with turf or moss, laid upon layers of birch bark. These turf roofs have a singular appearance, as many of them produce herbage, which is constantly cut as food for the cattle ; and some of them are ornamented with flowers.

The National Costume of Sweden is thus described by Dr. *Clarke*.—"In Sweden, go east, west, north, or south, there can hardly be said to be any change of costume. A change of colour, indeed, sometimes distinguishes the inhabitants of one province from those of another ; but the dress is, in other respects, the same every where. A broad-brimmed hat, with a crown made as low as possible, a black ribband being tied round it, distinguishes the holiday-dress of the men ; and this, on the days of labour, is changed for a cap.

"The dress of the women is gaudy ; it resembles the costume of the female peasants in some parts of *Italy* ; consisting of a scarlet jacket placed over a sort of variegated waistcoat, short blue petticoats not reaching lower than the knees, the feet being bare, and a white handkerchief bound loosely, and elegantly, over the head, covering a part of the face. Sometimes they appear without the jacket ; and then have only shift-sleeves over their arms, buttoned a little above the wrist. The men are tall and strong ; but they are not so stout as the *Danes*. The same characteristic features seemed to be every where prevalent : a long and somewhat pale face, with grey eyes, good teeth, and an expression of mildness in the countenance."

Dr. *Thomson*, who visited Sweden in 1812, describes the appearance of the Swedish peasantry as very striking to a native of Great Britain, who is accustomed to so great a diversity in the features of the people with whom he associates. "The Swedes have all light flaxen hair, and a ruddy countenance. I would say that a certain degree of flabbiness is visible in their complexions. There is nothing to be seen which indicates the existence of the more violent passions, but every one expresses a docility and good humour in his face, which I believe all possess, almost to a man.—The Swedish peasants seem to be a most amiable and innocent race. Most of them can read and write : they are all clean, and well dressed, in coarse blue cloth manufactured in Sweden. I do not mean to say that blue is the only colour which they wear, but it is by far the most common. They have all round hats, and mostly wear silk handkerchiefs about their necks." The dress of the

women, he says, resembles that of the common people of Scotland ; but they are all distinguished by the white handkerchief round the head, as before described.

M. *Boisgelin*, who had good opportunities of rendering himself familiar with the subject, describes the Swedes in the following explicit manner.

“ Of all the European nations, Sweden undoubtedly takes the lead in point of morals. The people are essentially good, virtuous, and attached to the religion of their king. Strict honesty, indeed, makes a part of their nature ; and such are their ideas of justice, that, in 1790, we met waggons filled with knapsacks belonging to the soldiers killed in Finland, which a certain number of peasants, which are exchanged at different stations, escorted as far as Scone, at the other extremity of the kingdom, in order to restore the effects of the deceased to their relations. We have frequently left our carriage open for hours on the high road, both by night and by day, without losing the smallest article. If, indeed, a Swede ever feels himself tempted to infringe upon the property of another, it is brandy alone can induce him to such an act ; for their passion for that liquor is so violent, that it is always imprudent to leave it within their reach, the temptation being too strong to withstand. These remarks apply only to the inhabitants of the country ; for those in the towns, particularly towards the south, are much in the same state of corruption as in other places.”

“ Having, therefore, now traversed all the *western* side of the gulph,” says Dr. *Clarke*, “ we may confirm our former observations upon the manners of the natives, by adding, that we found them every where characterised by a mild and peaceable disposition, without the smallest propensity towards theft or imposition. A stranger may trust his life and property, with perfect confidence and security, in their hands. This character of all the Northern *Swedes*, as it was confirmed by our own experience of their benevolence and honesty, so was it also attested by the best informed gentlemen residing among them. The natives of *Westro-Bothnia*, beyond all their countrymen, rank the foremost in pious and loyal disposition, and in simplicity and honesty of character. A foreigner who leaves his open trunks in their inn-yards and stables, amidst all the haste and confusion which must sometimes takes place in travelling day and night, and amidst the inability to attend them, occasioned by pain or sickness, or weariness and want of rest, will have nothing with which to reproach the inhabitants of this country.”

It must not, however, be supposed that the whole of Sweden is inhabited by the same people. The population is intermixed, especially in the plains ; while the mountains afford a refuge to individuals who have sought their recesses as an asylum of liberty.

“ The inhabitants of Dalecarlia constitute a set of men very different in their habits and appearance from the rest of the Swedes. You see them in considerable numbers in Stockholm, where they undertake the office of porters and labourers, as the Highlanders do in Edinburgh, and the Irish in London. They retain always the peculiar dress of their country, which, it is said, has undergone no change since the time of Gustavus Vasa. The men wear long whitish grey coarse coats, with buttons seemingly of horn or leather, and in shape somewhat similar to the English Jockey coat, but more clumsily made. They wear a thong of leather by way of girdle. Their hats have somewhat the appearance of those which our Quakers wear.”

M. *Boisgelin* also observes, “ The people who inhabit the province of Dalecarlia, in Sweden, are a grave and loyal people, strongly attached to their sovereigns, though jealous of their liberties, considering these sentiments perfectly compatible with each other. The memory of the great deliverer of Sweden is held in high estimation in Dalecarlia, where the peasants, artizans, and people in general, are

COSTUME



Guatemala.



La Llanura.



acquainted with the history of Gustavus Vasa, and remember with pride and pleasure that to their ancestors he owed the crown. This idea exalts them in their own opinion, and they speak of this circumstance with rapture and self-applause. These people, nearly as wild as their native mountains, still preserve their original harsh, rigid manners, and style of character. Enjoying the same degree of freedom, they cannot bend their necks to the yoke of slavery; and though strongly attached to their king, they look up to him more as a chief than as a sovereign master. They are, however, always ready to defend his cause; and the Dalecarlians of the present times have given proofs to Gustavus III. that they have not degenerated from their ancestors. Whenever they meet the King, they preserve their former custom of taking him by the hand. The Dalecarlians are distinguished by the names of grey and black, from always wearing cloths of one of these colours."

Among the most peculiar and striking customs of many nations, are their bridal ceremonies; and, on this subject, a judicious and interesting traveller observes,

"A wedding in *Sweden* is always a pleasing and singular sight for strangers. Both the bride and bridegroom are dressed in black. The bride is decorated, from her head to her waist, with a profusion of artificial flowers, made either by the Minister's wife, or by some ingenious friend, of coloured paper. Upon her head she wears a silver crown richly gilded, and held on by a double chain hanging down on either side of her head; this she holds by one hand, to prevent the crown from falling off. The marriage ceremony being ended, feasting begins, and continues during an entire week; when the most intimate friends of the new-married couple bring large sheets of ornamented paper, covered with verses and various devices, something like *English* Valentines; containing, also, the names of the couple, and the date of their marriage. These are the *Epithalamia*; and they generally remain stuck up in the houses, where the wedding feasts have been held, for many years afterwards. We saw several of those papers, with dates referring to marriages that had been solemnized more than twenty years before. So highly did their owners value them, that they refused to sell one of them to us at any price; neither would they allow any one of them to be taken down."—*Dr. Clarke's Travels.*

The NORWEGIANS have a much greater resemblance, in their manners and customs, to the Swedes than to the Danes, though they have so long been under the same government with the latter. As the baneful effects of the feudal system did not extend to Norway, every peasant breathes the air of freedom (except those of a few estates near Frederickstadt,) and their characters and manners evince the generous spirit of liberty. They are a frank and brave people, possessing many more of the real comforts of life than could be expected from the situation and local circumstances of the country. Their usual dress is of a stone colour, with red button holes and white metal buttons. The Norwegians are in general rather above the middle size, have fair complexions, blooming countenances, and light hair. The men have an engaging appearance, and the women are frequently handsome. Their mode of living, as well as many of their customs, have a great resemblance to those of the Anglo-Saxons. Both in their appearance and costume there is, however, a great diversity, which is strikingly manifest at the great fair of Christiana, where a stranger is almost tempted to imagine that different nations are collected together; "for the Swedes, Danes, and Norwegians, assuredly do not differ more from each other than the inhabitants of various vallies, who assemble from all parts to the annual fair. This is one of the most interesting spectacles for every stranger who visits Norway, and for every person who wishes

to examine human nature, and to trace by what routes and associations man gradually advances in the progress of cultivation."

As the inhabitants of Norway chiefly reside at a distance from places where they can be supplied with such articles as their domestic wants require, necessity has made them all artizans, and their ingenuity is exercised in the fabrication of their houses, furniture, clothes, and other domestic utensils. In the large towns on the coast, the intercourse with foreigners, and particularly with the English, has rendered the mode of living among the ship-owners and merchants very different from that of the country people. It resembles, indeed, that of the same classes in remote towns in Great Britain. In the interior, milk forms a principal article of their diet, and their meal is made into very thin cakes, like the Swedes. Flesh is seldom eaten, but is sometimes cut into slices and dried; after which it is preserved as an article of luxury.

The Norwegians are loyal and courageous. They are particularly fond of dancing, singing, and other rural amusements. Their common mode of salutation is by shaking hands, and a hearty squeeze is a token of the warmest approbation. Their usual dwellings are constructed of logs of wood, the crevices of which are filled with moss. The roofs are also made of wood covered with birch bark, which is completely proof against the weather, while the interior is generally clean and commodious.

Comparing the two nations together, Dr. Clarke observes, "The Norwegians are less virtuous, but they are a more lively people, and possess many amiable and valuable qualifications. Hospitality is not rendered oppressive, as is often the case in Sweden; but among the higher order of *Norwegians*, it is most liberally bestowed: there cannot be found upon earth, a more generous or disinterested race of men."

These people not only inhabit the southern parts of the peninsula, but are spread over the western islands, and the shores of the continent as far as the North Cape, where they have fixed themselves for the purpose of carrying on the fisheries, and trading with the inhabitants of the interior. They are even to be found on the island of Mageröe, the northern promontory of which is North Cape. As these are the most northern habitations in Europe, and are seated amidst the storms and severity of the polar regions, they merit description. The following animated delineation is given by an eye witness.

"They live there in earthen huts, which being covered over with grass, bear a resemblance to small hillocks; dwellings like those of the Tungusians, or like the *Gammes* of the Finns. The interior, however, looks more like a house. When we squeeze ourselves through the three feet high door, which is made to shut of itself, we go through a dark passage to the various compartments of the hut; a similar door opens into the dwelling-room; and this apartment differs in nothing from the usual dwelling-place of the peasants at Bergen. It is constructed of logs, quadrangular up to the roof, which is a quadrangular pyramid, with a square opening in the middle, that at night is closed with a blown up fish bladder, and through which the light enters, and the smoke issues during the day. The furniture consists of a table, and a bench behind it; the bed of the master of the house, and a cupboard or press, and chests, are ranged around. The children and servants sleep on the outside of the room, or beside the cow. The kitchen is a large chimney in the corner of the room. This is actually the most convenient manner of laying out a house in climates like these, where not a twig for firing is grown. The thick earthen wall makes a cellar of the hut, in which the temperature does not come in contact with the external temperature for weeks. Whether it storms or snows without, whether it is winter or summer, cannot be felt in one of

these earthen huts ; but in a common northern log-house, every external change is felt in a few hours in the inside. The air penetrates through doors and windows and finds its way over the whole house. It is singular, that the richer class, the *Storkarle* (*great fellows*,) as they are called by the Laplanders, or the *Lords*, as they are called in the canton of Schweitz, or the people of condition as they call themselves, do not adopt this mode of constructing houses of earth, and pass the summer in the large log-house, and the winter between earthen walls. For nothing prevents them from ornamenting the inside as well and comfortably as the taste of the inhabitants can wish ; and though in such a dwelling there is little light, and almost no prospect, during four months of continual night, little of either can be expected.”—*Von Buch's Travels*.

The northern regions of this great peninsula are inhabited by the *LAPPS*, who are equally distinct from the Swedes and Norwegians in their origin, appearance, manners, and customs. They are, indeed, intermixed with them in the southern districts of *Lapmark* or *Lapland*, but the other parts of this northern wilderness are completely their own. They are of small stature, seldom above four feet high, with swarthy complexions and short black hair, large heads, narrow dark eyes, high cheek bones, wide mouths, and thick lips. They call themselves *Same*, their language *Samegiel*, and their country *Same-Edna* ; and appear to have sprung from the same origin as the Samoides, who inhabit the northern regions of Asia. On this subject Dr. *Clarke* observes, “ the absolute certainty of an *Asiatic* origin in the *Laplander* is conspicuous in all that belongs to his person ; in his complexion pliant postures, diminutive stature, air and manner.” Some of their customs are still to be found among the *Tartars*. Their language has a great affinity to that of the Finns ; but the two nations are totally different from each other.

The personal appearance and costume of the Laplanders is thus described by Dr. *Clarke* ; and as the likeness was sketched by the hand of a master, with the original before his eyes, there can be no reason to doubt its correctness. “ His features, like those of all the *Lapps*, marked him at once as belonging to a distinct and peculiar race of men ;—eyes half closed ; mouth pinched close, but wide ; ears full and large, projecting far from the head ; complexion tawny and copper-coloured ; hair dark, straight, and lank, none growing near the nape of the neck : add to this a small and stunted stature, with singular flexibility of limbs, easily falling into any posture, like the *Oriental* nations ; looks regarding objects askance ; hands constantly occupied in the beginning of conversation with filling a short tobacco-pipe ; the head being turned over one shoulder to the person addressing, instead of fronting the speaker ;—such is the characteristic portrait of one and every *Laplander*. The moment we saw any of them, we could immediately recognise those traits by which the whole tribe are distinguished from the other inhabitants of Europe, and in which they differ from the other natives of the land in which they live. Even the *Finlander*, who is supposed to be a sort of *cousin-german*, differs, in many respects, from the *Laplander*. The hair of the *Finlander* is of a fair colour ; either pale yellow, flaxen, or almost white : and the honest *Swede*, of nobler race than either, is a giant, in whose person and manner there is nothing of the *cat-like* flexibility of the *Asiatic*, nor any resemblance to that orient complexion and form of the countenance which assimilates the *Laplander* to the natives of *Japan*.

“ The *Laplander* is a true pigmy. His feeble and effeminate voice accords with the softness of his language. When taken from his tent, he rolls his weak eyes about, like a bird or beast of darkness suddenly exposed to the sun. It is, nevertheless, impossible for human beings to wear an aspect more hideous than some of their old women ; and hence it is that the credulous fear them, and suppose them gifted with the powers of witchcraft. A person unaccustomed to their appearance

meeting one of these creatures suddenly in the midst of a forest, would, as we have said before, start from the revolting spectacle; the diminutive stature, the unusual tone of voice, the extraordinary dress, the leering unsightly eyes, the wide mouth, nasty hair, and sallow shrivelled skin, 'the vellum of the pedigree they claim,' all appear, at first sight, out of the order of nature, and dispose a stranger to turn out of their way.

"The costume of the wild *Lapps*, like that of the *Cree Indians* of *North America*, and other savages, is distinguished by the most lively hues, strongly contrasted. Their dress, while it calls to mind the chequered plaid of the *Highland Scotch*, may perhaps exhibit no unfaithful counterpart of JOSEPH'S 'coat of many colours.' Both sexes wear a woollen shirt, bound round the waist, either with a leathern girdle or with a yellow woollen sash. The bosom of this garment is used as a pouch for all necessities, tobacco, food, &c. The cap of the men is made of black plush, having the form of the *Asiatic fez*: if worn by rich *Laplanders*, this cap is garnished with bands of coloured lace, gold, silver, &c. The cap of the females is of blue embroidered silk, covered with lace; beneath which the hair is entirely concealed. The female features are in all much alike: they resemble those of the *Chinese* and *Calmucks*; their skin being of one uniform bright copper colour. They are as greedy of *brandy* and tobacco as the men. A young man and his wife, having their *winter* clothes in one of the store-houses near the church, put them on, and came to visit us in this dress. The man appeared as much like a bear as any human being could be; and squatting, according to the fashion of his country, before the door of the Parsonage, exhibited a mound of fur, with his head resting upon the top of it. His dress consisted of *rein-deer* skin for trowsers, with the hair on; the common Lapland buskin bound about the feet; over which was a covering made of young *bulls'* hides. For the inner garment, over the body, he wore a *sheep's* skin, with the wool turned inwards; and over the *sheep's* skin a *rein-deer* skin, with the hair on and turned outwards. Over the *rein-deer* skin was a broad cape, or tippet, of *bear's* skin, covering his shoulders, and rising behind his ears and head. His cap was of woollen, edged with fur: his gloves of *rein-deer* skin, with the hair outwards. We endeavoured to sketch a portrait of his lady, but failed. Her dress was of soft *rein-deer* skin, fringed with white, and bound with a plated girdle, studded with knobs of silver. From this girdle, among the men, are always pendant the knife, purse, and horn spoon. Among the women, the pincushion, a few brass rings, and other trinkets, are occasionally added."

The *Laplanders* are universally short, but the *Finns*, though settled in the same region for ages, do not appear to diminish in stature; and this has been ascribed to the greater care they take to provide against the rigours of the climate. The *Laplanders*, on the contrary, never preserve themselves in that temperature which nature seems to require for developing the physical functions of man. The whole number of *Laplanders* belonging to Sweden, Norway, and Russia, has been estimated at 10,000. These are generally divided into two classes; such as live in huts, or *gammes*, who inhabit the sea coast, and subsist in a great measure by fishing. These are usually styled sea or maritime *Laplanders*. The other class is composed of those who depend chiefly upon their *rein-deer* for support. They live principally in tents, and wander from place to place, according as the seasons or other circumstances render it necessary. These are the *Nomads*, or *Fieldt-Laplanders*.

The huts of the *Laplanders* are of the most wretched description, and but ill adapted to secure them from the severity of such a climate. They are in general not more than eight feet in diameter, and about four feet in height, not unlike a baker's oven. They are constructed of branches covered on the outside with grass or moss, but often so carelessly that the wind penetrates in every direction; and

an aperture at the top serves for both windows and chimney. Separate parts of this limited space are usually assigned to each branch of the family. The fire which is made in the middle separates the two sides ; that which is opposite to the door is the most honourable, and is reserved for the master and mistress of the lowly mansion. The children are next them, and the servants nearest the door. By this arrangement, each part of the family gains a place without being in the way of the other ; and those who have not witnessed the fact, will scarcely believe that so many people could be accommodated in so small a place. The tents are of a similar construction, and are merely composed of stakes thrust into the ground, and fastened together at the top, in a conical form, covered with a coarse linen or woollen cloth, and frequently with sail-cloth. The side most exposed to the wind is protected by a double covering. “ The inside seats consist of soft rein-deer skins and white woollen covers. The quality of this skin and cover also determines here the rank of the place and of the person who is to occupy it. This is certainly a slight habitation ; and it is almost inconceivable how a large, and frequently numerous family, can find room in such a narrow space for many months together. But all the members of the family are seldom assembled together at the same time ; the herd of rein-deer demands their presence and attention, even during the night, and such stormy and dreadful nights as the one we passed here in *Nuppilge*. Men and boys, wives and daughters, take the post of watching by turns, twice or thrice a day ; and each goes out with several dogs, which belong in property to that individual whose commands alone they will obey. The former guards in the mean while return with their hungry dogs. Hence, it not unfrequently happens that eight or twelve dogs march over the heads of the persons sleeping in the gamme, in quest of comfortable spots for themselves to rest in ; and when the Laplander returns wearied to his gamme, he always willingly shares his rein-deer flesh and his soup with his dog, which he would hardly do with either father or mother.”

“ The *Lapps* marry very early ; the men seldom later than the age of *eighteen*, or the women later than fifteen : but the *Fins* and the *Swedes* are prohibited from such early marriages. Very little previous ceremony is used upon these occasions ; an interchange of presents, and copious libations of brandy, are all that take place before the solemnization and consummation. The gifts consist of *rings*, *spoons*, *cups* of silver, or of silver gilt, and *rix-dollars* in specie, according to the wealth of the parties. The richest make also other gifts ; such as *silver girdles*, and silk or cotton *handkerchiefs* for the neck. When banns have been published in the church, which is very commonly the case, the marriage immediately succeeds their publication ; and the nuptials are consummated in one of the log-houses near the church, in which the *Lapps* deposit their stores for the annual fair. Upon these occasions, the bridegroom treats his friends with brandy, dried rein-deer flesh cooked with broth, rein-deer cheese, and bread and butter. If he be of a wealthy family, beer is also brewed : or, wanting this, plenty of *pima* and curds and whey are provided. The luxury of smoking tobacco, so general among the *Lapps*, is of course largely indulged upon these occasions, and even takes place during the repast. *Dancing* being unknown among them, forms no part of the merry-making. After the marriage-feast, a general collection is made in money for the married couple, when the distribution of brandy is renewed, and continued for two or three hours, according as the gifts are more or less liberal. Upon this occasion, gifts of *rein-deer* are promised to the bridegroom, which he is afterwards to go and demand ; but if he make the visit without carrying brandy to the owner of the *rein-deer*, the promise is never kept. The dowry of wealthy parents, among the *Laplanders*, to their children when they marry, consists of from thirty to fifty, and even eighty *rein-deer*, besides vessels of *silver* and other utensils.”—Dr. *Clarke's Travels*.

With respect to the dispositions of the Laplanders, a late traveller observes, "They are not *Arabs*. Where birches will not succeed, the nature of man seems equally defective. He sinks in the struggle with necessity and the climate. The finer feelings of the Laplanders are to be developed by brandy; and, as in eastern countries, a visit is announced by presents, the glass alone here softens their hostile dispositions. Then indeed the first place in the bottom of the tent, opposite to the narrow door, is conceded to the stranger. When a stranger demands entrance he is commanded by Lapland politeness to keep himself on his legs in the inside of the door, and sometimes even before a half-opened door. The master of the house then asks him the cause of his arrival, and also the news of the country; and if he is pleased with the account, he at last invites the stranger to approach nearer. He then becomes a member of the family; a place in the house is allotted to him, and he is entertained with rein-deer milk and flesh. The Arab invites into his hut and asks no questions."

The following description, by the same intelligent traveller, presents a lively picture of the mode of life, and the comparative state of the maritime and pastoral Laplander, and could have been sketched only by an eye witness.

"We had scarcely set our feet out of the door of the gamme in the morning, when in less than half an hour the house was entirely destroyed, and the rein-deer laden with all the utensils, and in motion to the new place of destination. They were bound together in rows of five, with thongs, like the beasts of burden on St. Gotthard, and they were led by the mother and daughter over the mountains, while the father went before to prepare the new dwelling, and the other children conducted the free herd to their place of pasture. The flock amounted to about four hundred. We had yet seen none under three hundred. With this number a family is said to be in moderate prosperity. It can be maintained on it. They can afford to kill as many rein-deer as are necessary for food and clothing, shoes, and boots, and to sell besides a few rein-deer skins, hides, and horns, to the merchants for meal or brandy, or woollen stuffs. On the other hand, a family lives very miserably on a hundred of these animals, and can hardly keep from starving. Hence, if they are brought down so low, they must give up the free pastoral life on the mountains, and draw towards the sea, and endeavour, as sea Laplanders, to gain from that element what they can no longer find among the mountains. But their desires are always fixed on the mountains, and every sea Laplander eagerly exchanges his hut and his earnings for the herd of the *Fieldt*-Laplander. The charms of a free life among the mountains, and of independence, may have less effect on the producing of this inclination, than the actual good living of the fieldt or mountain Laplanders, which the sea Laplander cannot even procure on holidays. Every day I have seen rein-deer flesh cooked in all these gammes for the whole family, and generally of young fawns, in large iron kettles. Each person certainly received more than a pound for his share. When the flesh was cooked, it was immediately torn asunder by the master of the house with his fingers, and divided out among the family; and the eagerness with which each person received his allowance, and the rapidity with which they strove as for a wager to tear it with teeth and fingers, are almost incredible. In the mean-time the broth remains in the kettle, and is boiled up with thick rein-deer milk, with rye or oatmeal, and sometimes, though seldom, with a little salt. This broth is then distributed, and devoured with the same hungry avidity. The sea Laplander, on the other hand, has only fish, or fish livers, with train-oil, and never has either the means or opportunity of preparing such costly soups. The former not only relishes his flesh, but finds in it a strong nourishment. In fact, how few boors in Norway or Sweden, or even in Germany; can compare their meals, in point of nutrition, with this."

CHAPTER VII.

Antiquities and Curiosities of Nature and Art.

THE ancient edifices, and other works of art in these countries, consisted chiefly of circular erections of unhewn stone, similar to those of Stone-henge, on Salisbury plain. Several of these still exist in the vicinity of Upsal, and in various other parts of the kingdom. Tumuli are also common. Of the ancient Temples, erected prior to the conversion of the natives to Christianity, no vestige now remains; but a few of the first stone Castles that were built still exist, and resemble the Pictish castles in Scotland. At a short distance from Upsal, is the *Morastein*, or stone of *Mora*, on which the ancient kings of Sweden were crowned; and the name of the sovereign and the date of his coronation were engraved. The Antiquities of Norway are of the same kind as those of Sweden, but fewer in number.

In the extensive regions of this great peninsula, NATURAL CURIOSITIES are numerous. Lakes, Cataracts, singular and sublime scenes, claim attention on every side. Some of the Lakes and Cataracts already mentioned deserve to be classed among these natural curiosities. There is also a lake, called *Rolangen*, in the province of Smaland, in which an island, containing an area of about 1070 square yards, rises from the bottom at certain periods and remains above the surface for some time. During the 18th century, fifteen of these appearances are recorded. Sometimes it does not remain visible for more than a few days, while at others, it is to be seen for several months. In the parallel of Tornea; there are some curiously formed hills, and also the rock of Torghatten, containing a perforation of great length and width, through which the sun can be distinctly seen at certain seasons of the year. Various caverns of remarkable construction also present themselves among the mountains, but they have been rarely explored, and still more rarely described, at least, with sufficient accuracy to afford a clear idea of their peculiarities. The noted whirlpool off the coast of Nordland, known by the appellation of the *Maelstrom*, is a singular phenomenon. Such is the power of this whirlpool, at certain seasons, that boats and even ships cannot approach the vortex without great danger. The bottom of this pool is full of craggy points; and the noise, particularly during a rough sea, is tremendous. A Danish paper stated a few years ago, that its power had then greatly increased; and that ships which came within eight or nine English miles were no longer safe. During a storm its influence extends beyond even this distance, which has been unhappily verified in the fate of the two ships which were too near and were impetuously hurried to destruction. Even the vast efforts of the gigantic whale are not sufficient to save him when once engulfed.

In the Mineralogical Report of Lapland, lately presented to the Swedish government, it is stated that one of the largest water-falls in Europe has lately been discovered in the river *Lulea*. It is said to be the eighth of a Swedish mile in breadth, and to have a fall of 400 feet perpendicular. One of these tremendous natural phenomena was also discovered, a few years since, in the Hyperborean regions of Norway, by professor *Esmark*. It is situated in the district of *Tellemarken*, and is called *Riakan Fossen*, by the natives, which, in their language, implies the *smoke of falling water*, an appellation forcibly descriptive of the vast

volumes of spray which constantly ascend into the atmosphere. Dr. *Schow* of Copenhagen, lately visited this astonishing spectacle, and states its waters to be supplied by the river called Maamelven, which issues from the Lake Miosen-watten. This immense cataract consists of three separate falls; two of them upon inclined planes, and the last on a perpendicular descent, which, according to the measures of Professor *Esmark*, is 800 feet in height. The quantity of water which descends over this stupendous precipice is always great, but is much increased when the snow melts upon the mountains.

The Church at *Skelefteo*, (already described,) deserves to be ranked among the CURIOSITIES OF ART, when its situation and the circumstances under which it was erected are considered. The swinging bridges by which the chasms in the Norwegian Alps are crossed, have also been classed under this head. Dr. Thomson has described a bridge over the River Dal, which is singular in its construction, at least in this country. The nature of the bank, with the frequent and sudden risings of the river, preclude the erection of a stone bridge; yet, as the road to Fahlun crosses the river, a bridge over it was necessary, and a very ingenious one has been constructed of wood, perfectly safe, but a construction so totally new to us as to excite considerable surprise.

“Indeed my fellow traveller was so much alarmed, that he hastily threw aside his great-coat in order to be ready to swim, in case the carriage, as he expected, should be thrown into the river. It consists of a very large stage of large square trees floating under water, and so attached to each other, and connected with the banks, that though they float at full liberty, they cannot be carried down the river. Over the middle of this stage, the upper part of which is just on a level with the surface of the river, is fixed a close row of square trees, about eight or ten inches thick, and about twelve feet long. These logs, lying in the direction of the river, constitute a kind of floating bridge, over which a man may walk perfectly dry-footed, but when a carriage or loaded cart presses on them, they sink a few inches under water; so that a small portion of the wheels, and even of the horse's feet, sinks under the water. The rattling of this seemingly loose bridge, the splashing of the water as the carriage passes on, the sinking and rising of the boards, have a very odd effect. But I satisfied myself, by a careful inspection of several of these bridges, that they are perfectly safe. There is a wooden parapet on both sides to prevent the horses, or any other animal, while passing, from falling into the river. The advantage of this bridge is, that it always swims upon the surface of the water, and is equally passable, whether the water be high or low. To secure this, the wooden bridge extends a good way farther on both sides than the banks of the river when low. At that season it has somewhat the appearance of an inverted ca'enaria. But when the river is high it is nearly straight.”

CHAPTER VIII.

Islands, Colonies, and Settlements.

SWEDEN possesses several islands in the Baltic sea and the Gulf of Bothnia, and great numbers on the western coast of Norway. Some of those in the Baltic were ceded to Russia in 1809; and the principal of them that remain are OLAND and Gothland. The first of these is a long narrow tract, resembling the ridge of a submarine mountain, nearly parallel to the Swedish coast, and is about the 57th degree of latitude. Its length is 70 miles, and its breadth about six. Much of the northern parts is covered with fine forests; but towards the opposite extremity the land is more steril. Numerous herds of deer and other wild animals range the forests. The domestic animals are the same as on the continent, and the principal mineral products are alum and stone. The whole population of this island consists of about 8000 individuals.

GOTHLAND is situated to the north-west of Oland, and nearly in the centre of the Baltic. It is a fertile district, about 75 miles long, and varying in breadth from 12 to 30 miles. This island was made known to the literary world by the travels of Linnæus, and is noted for an excellent breed of sheep.

ALAND, which is situated at the entrance of the Bothnian Gulf, with all those to the east of it, now belong to Russia. Several other small islands, however, occur near the eastern coast of Sweden and Lapland, but they are too insignificant to be described in this general sketch.

The western coast of Norway presents almost one continued series of broken and rugged islands from the bay of Stavanger to the North Cape; but their remote situation, their barren nature, and their severe climate, render them of little importance. Some of the principal ones are Karmoe, Bornmeloe, and Satoroen; the last of which is nearly opposite to Bergen. Proceeding towards the north, we meet with the island of Kitterin, and some others, near the entrance of the Gulf of Drontheim. These are followed by the Vigten islands, which are succeeded by the Loffoden Isles, the most numerous and extensive group on the coast. These are not only celebrated as lying in the vicinity of the Maelstrom, but as the chief seat of the fishery. The principal islands into which the fury of the northern ocean appears to have rent the Laponic shore, are *Seujen*, *Serœe*, *Seyland*, *Quallœe*, *Magerœe*, and *Wardhus*. They are much indented by arms of the sea, and consist of numerous promontories and stupendous cliffs rising almost perpendicularly from the waters, or overhanging the raging waves, and harmonizing with the fury of almost perpetual storms. The northern promontory of the island of Magerœe constitutes the celebrated point denominated the *North Cape*. Respecting this island, a recent traveller makes the following remarks: "the rocks which surround the Fiord here (on the east side of the North Cape,) are very towering. But how dreary and desolate is the interior among the mountains! All is lifeless, or merely a commencement of life. In the lower parts large patches of snow are still lying; and the heights are covered with large heaps of stones, without the smallest vestige of grass or other vegetation, with the exception of sometimes a little moss. It appears like a new earth sprung from the deluge. Nature never resumes her influence here, and we gladly flee from such a spectacle of dreary desolation." The isle of *Wardhus* is near the eastern extremity of Lapland, and is generally garrisoned by a few troops.

Sweden possesses only one COLONY, the island of *St. Bartholomew*, in the West Indies, which was obtained from France in 1785.

CHAPTER IX.

Statistical and Synoptical Tables.

TABLE I.

Modern Division of Sweden.

SWEDEN has lately been divided into the following provinces, which are now generally used in the country, though the division we have inserted at page 301, is the one usually given in Geographical works, and, consequently, most familiar to Foreigners. The whole of Sweden is divided into three great districts. These, in the orthography of the country, are *Gotaland*, in the south; *Svealand*, in the middle; and *Norrland*, on the north. These districts are subdivided into provinces, and the area of each, with the extent of water it contains, are exhibited in the following Table, which was drawn up by M. *Akrell*, who has also published one of the most correct maps of Sweden.

		<i>Square miles Swedish.</i>				
provinces.	Land.		Water.		Total.	
Norbotten	733·4	.....	17·6	.....	751	
Vesterbotten	653·6	.....	14·4	.....	668	
Vester Norrland	212·5	.....	4·5	.....	217	
Jemtland	407·6	.....	17·4	.....	425	
Norrland	2007·1	.....	53·9	.....	2016	
City of Stockholm	0·15	.....	0·03	.....	0·18	
Stockholm	64·04	.....	3·34	.....	67·38	
Upsala	45·63	.....	1·20	.....	46·83	
Vesteros	60·54	.....	1·37	.....	61·91	
Nyköping	52·58	.....	5·50	.....	58·08	
Örebro	68·21	.....	6·06	.....	74·27	
Carlstadt	140·50	.....	7·50	.....	148·00	
Stora Kopparberg	279·00	.....	9·00	.....	288·00	
Gefleborg	166·80	.....	5·70	.....	172·50	
Svealand	877·45	.....	39·70	.....	917·15	
Linköping	93·3	.....	5·7	.....	99·0	
Kalmar	97·1	.....	0·9	.....	98·0	
Jönköping	92·4	.....	3·3	.....	95·7	
Kronoberg	79·0	.....	5·2	.....	84·2	
Blekinge	25·4	.....	1·2	.....	26·6	
Skaraborg	75·1	.....	2·9	.....	78·0	
Elfsborg	111·2	.....	5·4	.....	119·6	
Göteborg	41·30	.....	0·7	.....	42·0	
Halmstad	44·40	.....	0·6	.....	45·0	
Christianstad	51·78	.....	1·62	.....	53·4	
Malmöhus	38·00	.....	0·6	.....	38·6	
Gottland	27·30	.....	0·2	.....	27·5	
Gotaland	779·28	.....	28·32	.....	807·6	
Vener, Vetter, Mälar, & Hjelmars .....		.....	85·2	.....	
Sweden	3663·73	.....	207·12	.....	3870·85	

TABLE II

Population and Professions of Sweden.

A very curious Table, exhibiting a complete view of the Population and Professions of Sweden, before the separation of Finland, was drawn up by Mr. *Nicander*, and published in the Transactions of the Swedish Academy of Sciences, for 1809, of which the following is an abstract.

ARTICLE I.

	<i>Number.</i>	
	Males.	Females.
Clergy and Teachers of various kinds.....	13,884	
Exercising Civil Offices and Professions.....	11,097	
In the war department.....	57,788	
Various kinds of Merchants.....	6,291	
Seamen, including Pilots and Light-house keepers.....	11,313	
Peasants.....	799,322	
Officers of Gentlemen.....	35,226	
Artists and Handicraftsmen.....	15,705	
Persons free from Service and Proprietors of lands, &c... ..	34,309	
Employed in Trades and Manufactures.....	30,765	
Artists and Tradesmen in Towns.....	26,181	
Children.....	531,678	
Beggars and Prisoners (females 53,993).....	24,391	
Laplanders..... (females 2,968).....	2,476	
Married Women, Widows, and Female Children.....		279,024
Unmarried Women.....		442,136
Total....	1,599,487	1,721,160
Grand Total....	3,320,647	

ARTICLE II.

*Stations.**

	Married.		Widows.	Widows.	Unmarried above 15 Years.		Persons under 15 Years.		Total.		Grand Total.
	Men.	Women.			Men.	Women.	Men.	Women.	Men.	Women.	
Nobility.....	1,716	1,788	294	908	1,795	2,052	1,770	1,734	5,575	6,482	12,057
Clergy.....	3,041	3,031	229	1,264	2,768	2,223	3,438	3,207	9,476	9,725	19,201
Gentlemen.....	15,098	15,021	1,636	4,116	10,572	8,972	13,906	14,788	41,212	42,897	84,109
Burgbers.....	14,450	14,544	1,314	4,585	8,340	8,332	11,863	12,784	35,967	40,245	76,212
Peasants.....	437,802	438,540	34,602	102,214	302,816	314,616	423,038	424,077	1,198,258	1,280,347	2,478,605
All other inhabitants	115,940	118,940	10,426	40,922	74,813	74,760	107,820	106,842	308,999	341,464	650,463
Total.....	588,047	591,864	48,501	154,009	401,104	410,955	561,835	564,332	1,599,487	1,721,160	3,320,647

* The difference between the numbers in the first and second columns of this Table, which is 3617, doubtless arises from the men being absent from the country, at the time the table was drawn up, as Sailors, &c.

ARTICLE III.

Ages.

	2	2 to 5	5 to 10	10 to 15	Above 15	Total.
Rich.....	1,047	4,002	6,942	2,628	1,312	15,931
Middling.....	9,790	49,970	69,110	12,167	2,876	143,919
Poor.....	40,976	149,236	120,109	13,672	3,556	327,549
Very Poor,	30,689	40,883	18,357	1,660	2,383	93,972
Total....	82,508	244,091	214,518	30,127	10,127	581,371

ARTICLE IV.

Persons moving from one Country to another.

	Men.	Women	Total.
Coming in	174,080	196,362	370,442
Going out.....	183,264	192,193	375,457
Increase .....	.....	4,169	.....
Diminution	9,184	.....	5,015

TABLE III.

State and Distribution of the Inhabitants of Sweden in 1811.

Provinces.	Towns.	Farms.	Inhabitants.			On the Farm.	Inhabitants of towns to those of the country, as 10 to	Inhabitants on a square mile Swedish.	Operative Farmers.	Yearly increase of inhabitants per 100.	Deaths one 100.
			In the Towns.	In the Country.	Total.						
Norrbotten	2	522·8	1,846	31,474	33,320	60	170	41	22,824	1·8	14
Vesterbotten	1	694·5	1,010	33,851	34,861	48	225	52	23,870	1·8	44
Vesternorrland ..	2	1,563·0	3,313	56,571	59,684	36	170	274	36,812	1·2	51
Jemtland.....	1	945·0	177	31,058	31,235	52	176	73	20,281	1·2	51
Norrland	6	3,725·3	6,346	152,754	159,100	41	240	77	103,787	1·5	17
City of Stockholm.....	1	.....	72,652	.....	72,652	...	13	.....	.....	0·6	25
Stockholm ..	6	4,056·2	4,563	94,814	99,377	23	207	1,483	58,649	0·5	38
Upsala.....	2	3,548·7	6,071	78,070	84,141	22	129	1,799	48,657	0·5	41
Vestenas ..	4	2,852	7,801	77,007	84,808	27	98	1,368	49,063	0·3	36
Nyköping	7	3,276	6,719	92,042	98,761	28	137	1,703	59,791	0·8	44
Örebro	4	2,774·7	5,483	94,945	100,428	34	173	1,357	61,720	0·7	39
Carlstad	3	1,708	4,290	135,810	140,100	79	317	946	92,592	0·8	45
Stora Kopparberg.....	3	1,792	5,981	118,825	124,806	65	198	433	79,313	0·7	47
Gefleborg	3	2,089	8,794	76,590	85,384	36	87	496	50,024	1·0	50
Svealand.....	33	22,096·6	122,354	768,103	890,457	35	63	927	499,809	0·6	40
Linköping	5	5,458	15,500	147,359	162,859	26	95	1,645	94,164	0·7	39
Kalmar.....	3	3,347	6,853	129,443	136,296	38	189	1,391	83,404	0·7	38
Önköping	3	3,905	4,556	112,825	117,381	28	248	1,235	76,115	0·8	40
Kronoberg	1	2,837·2	1,188	88,443	89,631	31	744	1,067	56,010	0·9	43
Blekinge	3	1,089	14,647	52,553	67,200	49	36	2,546	31,522	0·9	37
Skaraborg	6	4,804	4,668	133,742	138,410	27	286	1,775	89,910	0·4	40
Elfsborg	5	4,209	5,694	150,577	156,271	35	264	1,313	102,715	0·4	39
Göteborg	5	2,783	24,858	94,656	119,514	34	38	2,846	66,409	0·5	35
Halmstad	5	2,922	4,515	69,079	73,594	28	153	1,635	47,485	0·6	40
Christianstad	3	3,002	4,274	116,273	120,547	38	272	2,274	79,331	0·8	45
Malmöhus	7	4,033	17,253	132,639	149,892	32	77	3,944	95,637	1·0	41
Gottland	1	1,094·5	3,819	29,169	32,988	26	76	1,221	17,560	0·9	49
Götaland	47	39,487·7	107,825	1,256,758	1,364,583	31	116	1,697	840,262	0·7	40
Sweden	86	65,309·6	236,535	2,177,615	2,414,150	33	92	624	1,443,858	0·8	43

TABLE IV.

Latitudes and Longitudes of the principal places in SWEDEN and NORWAY.

The Latitudes of this Kingdom are all *North*, and the Longitudes all *East*.

Names of Places.	Latitude.			Longitude.			Names of Places.	Latitude.			Longitude.		
	°	'	"	°	'	"		°	'	"	°	'	"
Ärindal	58	25	0	9	4	30	Jonkiöping	57	45	0	13	59	0
Bergen.....	60	10	0	7	14	0	Kongsberg	59	37	0	9	45	0
Calmar.....	56	40	30	16	26	0	Lankiöping	58	22	28	15	31	3
Carlserona	56	6	57	13	33	0	Luleå	65	35	30	22	1	0
Carlstadt	59	20	0	13	9	0	Lund	59	42	26	13	12	42
Christina	59	55	23	10	48	45	Maelström	68	8	0	10	10	0
Christiansand	58	8	5	8	3	13	Malmö	55	56	37	13	1	19
Christiansstadt.....	56	1	15	14	9	0	Marstrand	57	53	0	11	56	0
Danemora	59	54	0	17	40	0	Nordkiöping	58	28	0	15	44	30
Drontheim	63	25	50	10	21	25	Orebro.....	59	15	40	15	9	25
Eskilstuna	59	30	0	16	18	0	Oregund.....	60	0	0	17	30	0
Falun.....	60	35	15	13	34	54	Philipstadt	59	50	0	14	35	0
Fredericksbald	59	4	0	11	3	0	Piteå	65	20	0	21	50	0
Fredericksstadt	59	2	0	11	1	0	Rashult	56	30	0	15	0	0
Gefle	60	59	30	17	7	27	Rovras	55	25	0	9	0	0
Gothenburg.....	57	42	4	11	57	45	Sala	60	0	0	16	5	0
Gothland, I. Centre of	57	25	0	18	36	0	Säpen	58	42	0	11	0	0
Gripsholm	59	0	0	18	0	0	StOCKHOLM	59	20	31	18	3	45
Halmstadt	56	39	45	12	57	0	Sundswall	62	47	0	17	5	0
Hedemora	60	13	0	15	54	0	Tonsberg	59	15	0	9	40	0
Hermosand	62	38	0	17	53	15	Umeå	66	4	0	20	22	0
Helsingborg	56	2	55	12	43	15	Upsal	59	51	50	17	39	0
Hudwickswall	61	43	45	17	7	59	Wadstena	58	12	0	14	58	0

MONIES, WEIGHTS, MEASURES, AND EXCHANGES.

Monies.

Accounts are kept in Sweden, in *rix-dollars*, of 48 schillings each. The rix-dollar was made a general money of account by a Royal Edict in 1777. The schilling is subdivided into 12 runstyken or ore.

	s.	d.
12 Pfenninge equal to 1 Schilling	equal to	1 $\frac{1}{2}$
48 Schillings	— 1 Rix-dollar	— 4 6
72 Schillings	— 1 Dollar specie	— 6 9

Coins.

Gold.		s.	d.
Ducat = { 1 Rix-d. 46 Schill. sp. 11 doll. }		—	9 $\frac{3}{4}$
Silver.		s.	d.
Rix-dollar of 1792	equal to	4	7 $\frac{1}{2}$
Do. of later date, or Rix-geld	—	4	6
Double Plott, or piece of $\frac{1}{2}$	—	5	0
Single do.	—	1	6
Piece of 3 Schillings	—	0	9
Do of 4 do.	—	0	4 $\frac{1}{2}$
Copper.			
1 Slant	equal to { 1 Ore Silver }	—	0 0.42187
Runstyken	— 1 Ore Copper	—	0 0.14062
192 Slants	— 1 Dollar specie	—	6 9

WEIGHTS.

Commercial Weights.

		English Avoir. lbs.
4 Quintins	equal to 1 Lod	equal to 0.123425
32 Lods	— 1 Pound	— 0.7495
50 Pounds	— 1 Lis-pound	— 11.99
50 Lis-pounds	— 1 Ship-pound	— 300.00
52 Pounds	— 1 Stein	— 23.984
120 Pounds	— 1 Centner	— 39.94
165 Pounds	— 1 Waag	— 123.6675

Iron Weights.

		Avoir. lbs.
1 Mark	....	equal to 0.33
20 Marks	equal to 1 Mark Pound	— 7.6
20 Mark Pounds	— 1 Ship-pound	— 1.52
74 Ship-pounds	— 1 Ton English	— 2.30

Different pounds are used in Sweden for different purposes; for besides that above specified, by which the imports and exports are regulated, they have,

	Eng. lbs.
The provision weight lb.	equal to 0.7
The Mine weight lb.	— 3.3
The Country weight lb.	— 5.19

MEASURES.

Dry Measure.

		Winchester Bushels.
4 Ort	equal to 1 Quarter	equal to 0.00928
4 Quarters	— 1 Stop	— 0.03711
2 Stops	— 1 Kanna	— 0.07422
1 Kanna	— 1 Kappar	— 0.14844
4 Kappar	— 1 Ejerdingar	— 0.51953
4 Ejerdingar	— 1 Spann	— 2.07812
2 Spanns	— 1 Tunna	— 4.15625

The common Tunna, therefore, contains 4 Winchester Bushels and 5 quarts, or 8940 English cubic inches.

To every Tunna of grain, 4 Kappar are allowed for good measure; 6 Kappar are allowed for Malt, and 2 for Salt or Lame.

Liquid Measure.

		Eng. Wine gallons.
4 Jungfrur	equal to 1 Quarter	equal to 0.08646
4 Quarters	— 1 Stop	— 0.34583
2 Stops	— 1 Kanna	— 0.07422
1 Kanna	— 1 Ankar	— 10.375
2 Ankars	— 1 Eimer	— 20.75
2 Eimers	— 1 Am	— 41.5
1 Am	— 1 Oxhufvud	— 62.25
2 Oxhufvud	— 1 Pipe	— 124.5
2 Pipes	— 1 Fuder	— 249.0

The Kanna is common to both dry and liquid measure. It contains 159.66 English cubic inches; and consequently 100 Kanna are equal to 69.11 wine gallons.

The Tunna of liquids, or of soft substances, flour, meat, and fish, is always equal to 48 Kanna.

Long Measure.

		English Feet.
12 Inches	equal to 1 Foot	equal to 0.975
2 Feet	— 1 Ell	— 1.95
3 Ells	— 1 Fathom	— 2.925
16 Feet	— 1 Rod	— 15.6
6600 Fathoms	— 1 Mile	— 53100.0

Swedish Engineers divide the foot into 10 inches, 10 lines, or 1000 parts.

Square Measure.

	English.
A Swedish square Foot	is equal to 1.0679 Inches
A Swedish square Rod	— 27.04 Sq. yards.
A Swedish square Mile	— 14192 Sq. Miles

A Swedish Tunneland or Acre, is equal to 36,000 Swedish square feet, or 3900 English square yards, equal 1 acre, 30 poles stat. measure. Hence, the Swedish Tunneland is to the English acre, as 39 to 1, or 32 of the former, are equal to 39 of the latter.

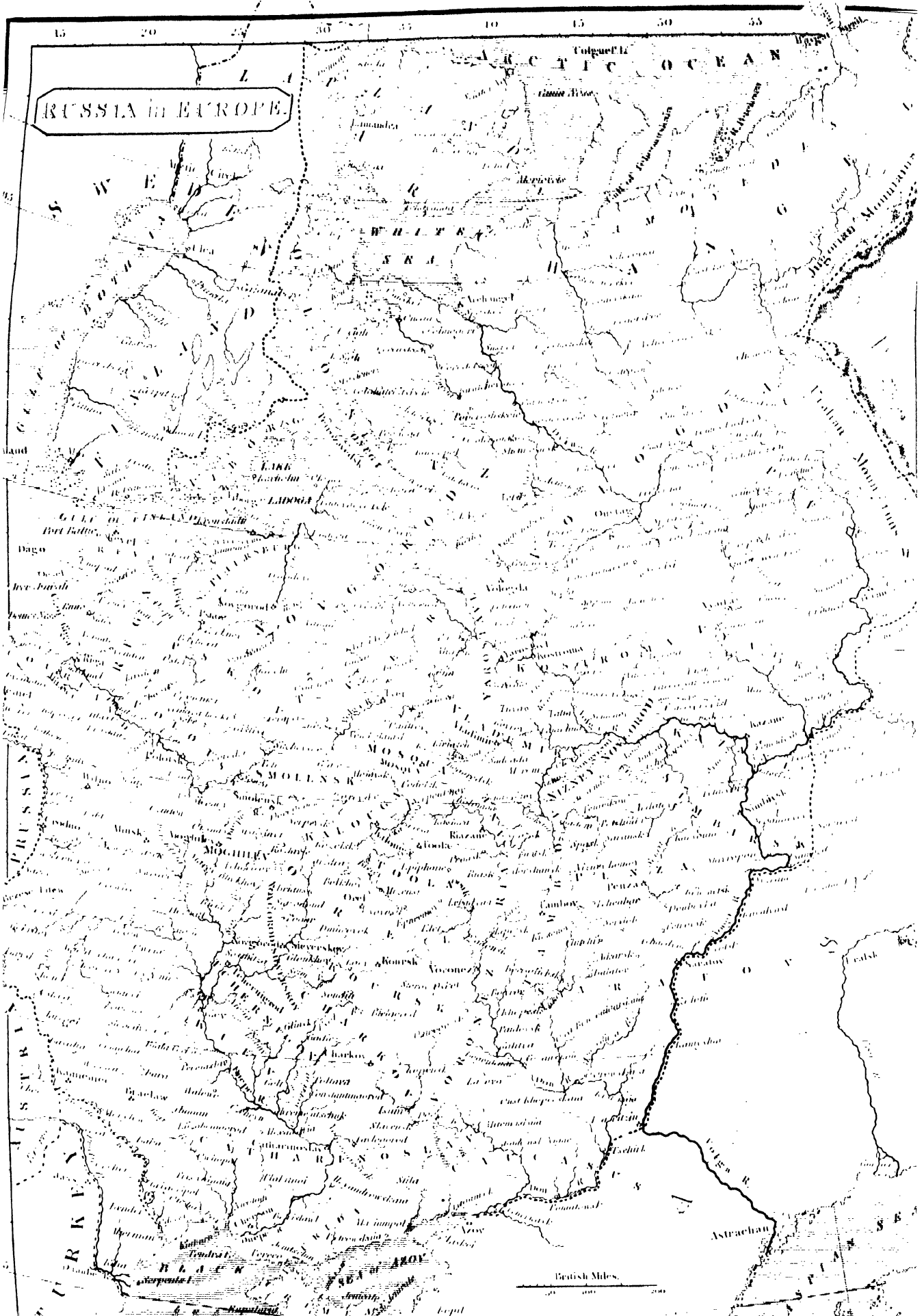
Lastage.

A last of rye from	Riga is	15 Tunna
Ditto	Liebau	14
Ditto	Stralsund	14
Ditto	Rostock	12
Ditto of pitch, ashes, &c.		12 Barrels
Ditto of tar, oil, &c.		15 Barrels
Ditto of hemp, flax, tallow, &c.		6 Ship-pds.
A ton of Liverpool common salt	equal to	7 Tun Sw.
A wall or kast of timber	is 30 pieces.	
A hundred of deals	is 120, each 12 feet long, 9 inches broad, and one inch and a quarter thick.	

EXCHANGES.

Sweden Exchanges with the following places, at the rates specified below. These, however, are subject to variation according to circumstances; and the difference from the medium is sometimes considerable. The exchange with London, for instance, at the beginning of 1818, was more than 6 rix-dollars for the £1 sterling, and most of the other exchanges in proportion. With

Amsterdam,	45 Schillings specie	for 1 Rix-dollar banco.
Cadiz	43 ditto	for 1 Ducat of exchange.
Copenhagen	100 Rix-dollars specie	for 128 Rix-dollars current.
Hamburg	46 Schillings	for 1 Rix-dollar banco.
Leghorn	39 Schillings	for 1 Pezza of 8 Reali.
Lisbon	20 Schillings	for 1 Old Crusade of 400 Rees.
London	4 Rix-dollars 15 Schillings	for 1 Pound sterling.
Paris	25 Schillings	for 1 Ecu, equal to 60 Sous Tournois.
Stralsund	100 Rix-dollars specie	for 133 Rix-dollars current.



EUROPEAN RUSSIA.

CHAPTER I.

Name—Situation—Boundaries—Extent—Population—Original Inhabitants—Progressive Geography, and Distribution of the Inhabitants.

THE ancients included many of the wide-spreading regions of which this vast Empire is now composed, under the general NAME of *Sarmatia*, but its present appellation was derived from the *Russi* or *Rossi*, a Slavonic tribe, who were its first known inhabitants, and who peopled a part of these dominions as early as the 9th century. This empire has sometimes been denominated *Moscovy*, from Moscow, its ancient capital. Russia now comprehends a large portion of both Asia and Europe, and is the most extensive empire that was ever comprised under one government. It spreads through nearly three times the space occupied by the whole dominions of Rome; for it not only borders on the Baltic, the Euxine, and the Caspian, but is washed by the Arctic and Pacific Oceans. It stretches from the eastern confines of Asia to the mountains of Olonetz, and from the mouths of the Don, the Volga, and the Kuban, to the Frozen Sea. Independently of islands and promontories, Russia comprises 165° of longitude, and 32° of latitude: being 9684 miles in length, and 2400 in breadth. It contains a surface of about 4,000,000 square miles, and a population of more than 42 millions of inhabitants, or about 10 persons to each square mile; which is nineteen times less populous than England. Exclusively of the inhabitants of the Asiatic part, and the kingdom of Poland, the population of European Russia does not much exceed thirty-five millions.

EUROPEAN RUSSIA occupies the north-east portion of Europe, and is BOUNDED on the north by the Frozen Ocean; on the east by Asia; on the west by Sweden, the gulf of Bothnia, the Baltic, Prussia, Poland, and Austria; and on the south by Turkey and the Black Sea. It extends from about the 44th to the 72d degree of north latitude; and from the 22d to the 60th of east longitude, from Greenwich. Its length in a right line along the western frontier, is about 1940 miles; but from south-west to north-east, it is nearly 2180 miles. Its greatest breadth is about the 51st degree of latitude, where it is nearly 1520 miles. Its superficial EXTENT has been estimated at a little more than one million of square miles, and its POPULATION is, therefore, about 35 persons to each.

The ORIGINAL POPULATION of Russia, like that of many other countries, is involved in impenetrable obscurity. History, indeed, has recorded little respecting it, which is capable of exciting the interest, or gratifying the curiosity of an enlightened age, till towards the close of the 16th, or the beginning of the 17th century. At an early period, a horde of Slavonians seem to have migrated from

the banks of the Danube, to those of the Dnieper and the Neva, whence they gradually extended their conquests over the adjacent regions. The great mass of the present population of European Russia is well known to be Slavonic, and to have sprung from a race radically distinct from the Goths on the one hand, and the Tartars on the other. As the Goths occupied the more western countries, and the Slavonians the eastern, the former are supposed to have migrated from their original abodes, in the interior of Asia, at an era prior to the latter. The descendants of the Tartars, the Finns, and various other ancient nations, have swelled the population of Russia in the more recent periods of its history.

Minutely to describe the PROGRESSIVE GEOGRAPHY of the Russian Empire, would be tedious and uninteresting. The subject, however, must not be passed over without a brief sketch.—The Russians seem to have early possessed a large district around *Norogorod* and *Kiow*, or *Kier*, and to have subsequently extended their territories to the Baltic, on the one hand, and along the Borysthenes, on the other. Their growing empire, however, was checked by the victories of the Tartars, who, in the 13th century, caused them to abandon Kiev, and adopt *Moscow* as their capital. Russia then became a labyrinth of small states, under Tartarian sway. In 1462, however, it began to recover from that overthrow, and gradually to rise to that commanding rank in both territorial extent, and political importance, which it has now attained.

Ivan, who reigned from 1534 to 1584, was the great founder of the Russian monarchy. He conquered the Tartar kingdom of Astracan, and some other provinces on the north-west. His successor also turned his arms against Siberia, but very little is known respecting that country, till 1730.

From the period when the Russian provinces became united under one government, its frontiers have been frequently extended, but its annals present no instance in which they were contracted. Some of the principal augmentations by which the empire has been successively enlarged, are the following, as stated in the Russian Court Calendar for 1817.—The conquest of Siberia took place in 1573. *Fermak*, the Hetman of the Don Cossacks, rebelled against the authority of Russia, and was obliged to flee before the forces of the Tzar. In this extremity, he ascended the Ural mountains, and discovered the vast plains of Siberia. Animated by the idea of founding a new empire in these unknown regions, he pushed on from conquest to conquest, till he had subdued all the savage tribes from the Ob and the Ural to the Altaian mountains. But, being unable to preserve the conquests which his valour had achieved, he laid the fruit of his victories at the feet of the Tzar, who not only forgave his rebellion, but rewarded his talents, his courage, and his enterprise. Thus an empire more extensive than Mexico or Peru was added to the Russian territory, by a man inferior to the conquerors of the New World, only because his exploits have not been recorded.”

Little Russia was added to the former possessions, in 1644; and Livonia, Esthonia, Ingria, Carelia, Viborg, and several islands in the Gulf of Finland, were ceded to Sweden, at the peace concluded between the two powers in 1721. White Russia was annexed in 1772; and the Crimea, the island of Taman, and a great part of the Kuban, comprising a vast territory, with about 1,500,000 inhabitants, were wrested from the Porte, by the treaty which the menacing attitude of Catharine II. and her celebrated minister Potemkin, induced that power to sign, in 1784. The Dukedoms of Lithuania and Courland augmented the accumulating mass in 1793; and the partition of Poland, about two years afterwards, added nearly 3440 square leagues, and about two millions of inhabitants. Georgia was annexed in 1801; and Bailystock in 1807. The war between Russia and Sweden, in 1809,

proved disastrous to the latter, and Russia acquired Finland by the peace that was concluded in September of that year.

In August 1811, a treaty of peace was entered into between Russia and Turkey, by which the former obtained the province of Bessarabia, and the eastern part of Moldavia, for by that treaty the river *Pruth*, from its entrance into Moldavia, to its junction with the Danube, and this last river to the Black Sea, were fixed as the boundaries between the two empires. The Grand Duchy of Warsaw was also annexed to Russia in 1815, but now constitutes a great part of the present kingdom of Poland, of which the Emperor Alexander is king.

This vast empire has not only experienced large and successive additions of territory, but has likewise undergone much variation in its political divisions. In 1796, Catharine II. divided the whole of the Empire into fifty governments; but this division was annulled by Paul, in 1800, and another, comprising forty-one governments, substituted in its stead. When the present Emperor ascended the throne, he re-established most of the governments which his father had abolished; and a *Ukase* for that purpose was published in September 1801, by which the forty-one existing governments were increased by five others that had previously been established, and four more were added, which made the number fifty. The acquisition of Finland, which surpasses in extent the whole of England, has since that period been added. The following are what are embraced in its present division.

GOVERNMENTS ON THE NORTH.

<i>Governments.</i>	<i>Capitals.</i>	<i>Governments.</i>	<i>Capitals.</i>
Finland	Abo	Vologda	Vologda
Wyburg	Wyburg	Livonia	Riga
Olonez	Olonez	Pskove	Pskove
Archangel	Archangel	Twer	Twer
Esthonia	Revel	Jarosla	Jarosla
St. Petersburg	St. Petersburg	Kostroma	Kostroma
Novogorod	Novogorod-Vel		

GOVERNMENTS IN THE CENTRE.

Smolensko	Smolensko	Tambof	Tambof
Moscow	Moscow	Orel	Orel
Volodimir	Volodimir	Kursk	Kursk
Nizney Novogorod ..	Nizney Novogorod	Woronetz	Woronetz
Kaluga	Kaluga	Tschenigo	Tschenigo
Tula	Tula	Ukraine	Karkof
Riazan	Riazan		

GOVERNMENTS ON THE SOUTH.

Kiev	Kiev	Taurida	Cañā
Catharinoslaf	Catharinoslaf	Caucasus (part in Asia)	
Cossacks	Tscherkaskoy		

GOVERNMENTS ON THE EAST.

Perm. (part in Asia) ..	Perm	Simbirsk	Simbirsk
Vyatka	Viatka	Penza	Penza
Orenburg (part in Asia)	Orenburg	Saratof	Saratof
Kazan	Kazan		

GOVERNMENTS ON THE WEST.

Witepsk	Witepsk	Minsk	Minsk
Moghilef	Moghilef	Volhynia	Lucko
Courland	Mittau	Podolia	Kaminieck
Wilna	Wilna	Cherson	Cherson.
Grodno	Grodno		

The extent of each government, and the exact number of its inhabitants, cannot be stated with certainty. It is sufficiently obvious, however, that, in the greater part of this vast empire, the population is very disproportionate to its extent ; and perhaps no country on the globe exhibits a more unequal **DISTRIBUTION OF ITS INHABITANTS**. The most populous parts are those between the 49th and 58th degrees of latitude, and the 40th and 65th of longitude. Among the governments included within these limits, are Moscow, Kaluga, and Tula, in which the number of people to a square mile is from 125 to 150 ; while in many other parts they are less than a tenth of that number ; and in some districts of the empire there is not even more than one person to four or five square miles. The relative population of the government of Moscow to that of Irkustk (in Asia) for example, has been stated to be about 800 to 1.

To account for this difference, it will be sufficient to reflect, for a moment, upon the nature of the two countries. In the one instance, a mild climate, a fertile soil, and a country but partially occupied, and imperfectly cultivated, but capable of improvement to an almost unlimited extent, cause a rapid increase, and a comparative condensation of the human species. On the other hand, a region composed of naked mountains, steril plains, and almost interminable marshes, or covered with forests, wherever the soil and the climate allow the powers of vegetation to operate, seems to deny man a place. Bound, too, by the iron bands of frost, and buried beneath a thick covering of snow for the greater part of the year, we ought not to be surprized at the thinness of the inhabitants, but rather that such a region is inhabited at all.

CHAPTER II.

Outlines—General Surface—Mountains—Rivers—Canals—Lakes—Climate—Soil—Culture—Products.

THE OUTLINES of the European part of the Russian dominions are partly marked by the grand features of Nature, and in part composed of arbitrary lines. Commencing at the north-eastern extremity, where the small river *Cara* divides the European from the Asiatic part of the Empire, the Arctic Ocean, with its desolate and barren shores, forms various promontories and gulfs, till the White Sea gives deep access into the province of Archangel. An arm of this sea stretches towards the north-west, till it penetrates beyond the Arctic circle, and forms a large peninsula between it and the Frozen Ocean. After the line of boundary, in this direction, has reached the 70th degree of latitude, and the 27th of east longitude, it quits the shore, and winds towards the west till it meets the river Muonio, which it decends to the river Tornea, and thence to the northern extremity of the Bothnian Gulf. This, with the Gulf of Finland, the Baltic, and the Gulf of Riga, all wash the western shores, contribute to the maritime resources of Russia, and give it a ready access to the ocean. The line of demarcation on the west is partly formed by rivers, and partly by arbitrary lines, till it reaches the Black Sea, the coasts of which, in conjunction with those of the Sea of Azof, constitute its southern limits. Ascending the rivers Don and Volga, the boundary follows the great natural limit of the Uralian chain to the river *Cara*, and terminates at the Arctic Ocean.

European Russia presents much less variety in its general aspect than many other countries of inferior extent. Its two distinguishing features are vast plains and majestic rivers. These plains are denominated Steppes, and exceed in extent all others in Europe. Some of them consist of an extremely fertile soil : others are merely saline wastes ; while a third kind produces a scanty supply of vegetation, and are occupied, in summer, by tribes that roam in quest of pasturage for their flocks and herds. The most noted of these steppes are the following. The sandy and marshy desert of Petshora is situated between the rivers Dwina and Petshora, and extends from the 63d degree of latitude to the shores of the White Sea. This plain is interspersed with forests and small lakes, and is nearly destitute of inhabitants, except in the vicinity of Archangel, Mezen, and a few other places. The steppe of the Dnieper, including the Crimean desert, is comprised between the Dnieper, the Don, and the Sea of Azof, and consists chiefly of dry sand diversified with salt lakes. The appearance of this steppe seems to indicate its having once being a submarine bed, the waters of which, by bursting the Thracian Bosphorus, may have flowed into the Mediterranean. The salt lakes and the salt that abounds on its surface, its recently formed strata intermingled with sea-shells, and the peculiar structure of the Greek islands, all favour this idea. The steppe of the Don and the Volga, which occupies a considerable part of the space between these rivers, is in general rich and productive. The great plain bounded by the Volga and the Ural is about two degrees further north than the latter, and stretches towards the Caspian Sea. Other parts of the Russian territory present more variety ; but the general aspect of the country, par-

ticularly in the interior, is one uniform and almost unbroken level. This is strikingly exemplified in the section we have given of its western side, in the **GENERAL VIEW OF EUROPE**, and which extends from the shores of the Baltic to those of the Black Sea. See the **PLATE** facing page 7.

The surface of European Russia, generally speaking, is composed of two inclined planes; the one sloping towards the south and south-east, and the other descending towards the opposite points of the compass. These declivities meet on the east side of the empire, about the 60th degree of latitude, and thence follow a winding line towards the south-west, till their union reaches the 50th degree, and quits Russia in the vicinity of Smolensko. From this waving ridge, which indeed is scarcely perceptible in some places, the accumulating waters flow on the one hand to the Euxine and Caspian; and on the other, into the White Sea and the Baltic.

Russia is not destitute of **MOUNTAINS**, and they may be arranged under the following heads. The Mountains of *Olonetz* originate in the northern extremity of Lapland, and stretch through about 15° towards the south. The northern parts of this chain are constantly covered with snow. The more southern regions are clothed with forests, and contain various metals, particularly iron.—The Mountains of *Valday*, which are crossed in travelling from St. Petersburg to Moscow, have been supposed, by some travellers, to be merely a continuation of the former chain; and are seldom more than 1200 feet above the level of the sea. They are chiefly composed of clay and sand, with occasional blocks of granite, and are frequently covered with forests. In this range, the ridges are often separated by fertile vallies. This elevated region gives rise to the Volga, the Duna, the Dnieper, and the Ocka, and may properly be denominated a table land, encompassed by sand hills. A ridge of hills likewise extends through Moldavia and Bessarabia. These mountains stretch along the southern coast of Taurida, and connect the Carpathian with the Caucasian Chain; but they are less remarkable for their height and magnitude, than for the beautiful and romantic scenery they present. “They form the southern extremity of the peninsula, and consist of calcareous matter, supported, as it were, by pillars of marble, trap, clay, common lime-stone, and schistus, in parallel and almost vertical veins, alternating with each other. This singular ridge has the appearance of an amphitheatre along the Euxine. The vales produce the laurel, the olive, the fig, the lotus, and the pomegranate; the cliffs are adorned with the red bark and perpetual foliage of the strawberry-tree; while the sheep and goats, clinging to the declivities, combine with the simple manners of the Tartars to form an enchanting picture.” The eye, turning from the monotonous and cheerless view of the boundless steppe, is delighted with the varied prospects of these mountains, adorned with the chequered foliage of the oak, the beech, the pine, and various other vegetable tribes that ascend to the very summit of the chain. In some parts, enormous rocks, heaped upon each others in wild and rude disorder, recal the fabled wars of the giants; while in others the terraces of the mountains are overspread with gardens, enamelled with flowers of exquisite fragrance, and refreshed with numerous streams, which not only fertilize the soil, but diffuse a grateful coolness through the air. In some parts, also, precipitated streams dash over the craggy rocks, or descend the declivities in more gentle and murmuring cascades.

The Uralian mountains, which separate Europe from Asia, for more than 1200 miles, have already been mentioned in the **GENERAL VIEW OF EUROPE**. This range, like the northern Alps, declines more abruptly on the western, than on the eastern side. The highest part is in the province of Orenburg, and the most

elevated points near the western verge of the range. These, however, do not exceed 4500 feet in height.

The other distinguishing feature of the Russian landscape, is its majestic RIVERS, which roll their broad waters through its almost interminable, undiversified plains. They greatly facilitate the intercourse between one distant region and another. The principal ones that descend towards the south, are the Volga, the Don, and the Dnieper, with their tributary streams. Those that run in an opposite direction, are the Petshora, the Dwina, the Neva, and the Duna, with their confluent branches.

The course of the noble VOLGA has already been delineated. Near it flows the winding Don, the *Tanaïs* of the ancients, but more celebrated in the present age, from its watering the country of the Don Cossacks, that renowned tribe of roving warriors, whom recent events have more fully introduced to the western countries of Europe. This river originates in a lake, south of Moscow, whence it winds in a serpentine direction towards the south-east, till it passes the 49th degree of latitude, and then bends towards the west. After having flowed over a bed of sand, marl, and clay, through a flat country, covered with oak and pine, and watered several of the central and southern governments of Russia, it falls into the Sea of Azof, after a course of about 800 miles. As the channel is obstructed by rocks and water-falls, it is not very serviceable to the commercial interests of the provinces through which it passes. The principal tributary streams of the Don, are the Voronetz, the Donetz, and the Mantish. As these rivers collect the waters of so large a space, and the country through which the Don flows is so level, it frequently overflows its banks, and covers a wide extent of country. The chief of these confluent streams is the Donetz, which runs nearly parallel to the Don, through a course of about 300 miles, but a few degrees more to the west.

The DNEIPEP, which was the *Borysthenes* of ancient geographers, has its source in a morass, in the government of Smolensko, near the frontiers of Twer, and in the vicinity of those of the Volga and the Duna. After flowing through the former of these provinces towards the south, it passes through some of the most fertile districts and finest climates of Russia, and subsequently falls into the Euxine, after a course of more than 1000 miles. The Dnieper is a noble stream, exceeding the Don in magnitude, but being impeded by water-falls, it is of less service to the commerce of the country. Its navigation commences at the city of Smolensko, but is interrupted below Kiev, by a series of thirteen cataracts, which occupy a space of about 40 English miles. From this to the sea, however, there is an expanse of more than 200 miles free from obstructions, a part of which is occupied by the extensive lake Liman. Here the banks are overspread with vast forests; and they have frequently been the scene of sanguinary conflicts between the Russians and the Turks. Nor has the upper part of its course been rendered less memorable by the recent transactions at Smolensko. The Dnieper receives a number of tributary streams; one of the chief is the Pripez, from the west. All the rivers of Southern Russia are well stocked with fish.

The DWINA is the largest of the rivers that flow towards the north. It takes its rise in two separate sources, in the government of Vologda. After their union at the city of Ustjug, it assumes a north-west direction and falls into the White Sea, by two distinct outlets. The length of the Dwina is about 400 miles, but it flows through a flat, and almost uninhabited country, covered with forests and morasses. This river is frozen more than half the year.

The PETSHORA originates on the western flank of the Uralian chain, and flows towards the north-west, under the same circumstances as the Dwina, till it enters the Frozen Ocean, after a course of nearly 400 miles.

The **MEZEN** also falls into the White Sea, between the Dwina and the *Pet-shora*; and the **ONEGA** joins a gulf of that sea, west of the Dwina. The most important of these northern rivers is the **DUNA**, which issues from the same regions that give rise to the Volga and the Dnieper. It first flows towards the south west, but afterwards winds to the north, and pours its accumulated waters into the Gulf of Riga, a little below that city. The length of its course is about 500 English miles. It contributes greatly to the commercial prosperity of Riga, though its navigation is in some places intercepted by rocks. Below that city, the breadth is about an English mile; and it is frequented by numerous vessels, when free from ice, which is generally from April to November.

The **NEVA** connects the Lake of Ladoga with the sea. After having completed a course of 40 miles, and pervaded the metropolis of all the Russias, its *embouchure* is near Cronstadt, at the extremity of the Gulf of Finland. The **NARVA** likewise unites the lake *Peyphus* and the same gulf.

The level nature of the Russian dominions, and the number of large rivers by which they are intersected, in almost every direction, are extremely favourable to its internal navigation: but much yet remains to be done before all the advantages of these circumstances will be realized. The genius of liberty must first exercise her magic touch, the shackles of slavery must be broken, and a general spirit of foreign and domestic enterprise must be excited. Nearly the whole distance from the Caspian to the Baltic is rendered navigable by means of large rivers, which Peter the Great completed by opening a **CANAL NAVIGATION** between the river *Twerza*, that falls into the Volga, and the *Shlina*, which terminates in the Gulf of Finland. This is the Canal of *Vishnei Voloshok*. Various other plans of internal navigation have, at different times, been either wholly or partially executed: and the repose of peace, aided by the information which the Russians have derived from their recent visits to the more improved nations of Europe, will doubtless be employed by the Emperor in promoting the national resources of his vast dominions. Among these improvements, the construction of Canals will find a place, though they are rendered less necessary in Russia than in most other countries, by the continued intensity of the frost, which makes the conveyance of heavy articles on sledges a matter of comparative ease. No sooner has the frost set in, than sledge-ways, covered with these singular vehicles, are opened from the Gulf of Archangel to the mouth of the Don, and from the banks of the Irtysh to those of the Neva.

Some of the Russian **LAKES** are the largest bodies of fresh water in Europe. Those of Ladoga, *Peypus*, **ONEGA**, and *Ilnen*, are of the first class. Russia also contains several others of less note. The largest of these lakes is **LADOGA**, which is situated opposite the Gulf of Finland. Its length is about 130 miles, its breadth 75, and its whole extent equal to 6200 square miles—a space equal to one-eighth part of England. This is the largest lake in Europe, and abounds in fish, particularly salmon. The numerous shoals it contains, and the frequent storms by which it is agitated, impede its navigation, and have caused a canal to be cut along its southern shore. Ladoga receives several rivers, but its only outlet is the Neva.

Lake **ONEGA** is situated south-east of Ladoga, which it nearly equals in length, but is only about half as broad in the southern part, and much narrower towards the north. Its islands and shores abound in valuable marbles, which are much used at St. Petersburg. *Onega* is connected with Ladoga by the river *Suir*, and, like the latter lake, abounds in various kinds of fish.

South of the Gulf of Finland is lake **PEYPUS**, about 60 miles in length, and 30 in medium breadth. It contains several islands, one of which is inhabited and

partially covered with forests. A strait also connects the southern extremity of lake Peypus with the lake *Pscore*.

Lake **ILMEN** is situated east of Peypus, and is more than 40 miles long, and from 12 to 18 broad. Several other smaller lakes also diversify the landscape, both towards the east and north-west, and become the sources of rivers.

In the latter quarter the lake of **ENARA** is in that part of Lapland which lately belonged to Sweden. It is about 40 miles long and 15 broad. It contains a number of small islands, and is connected with the Arctic Ocean by means of a river. The **IMANDRA**, between the last lake and the White Sea, is also an extensive sheet of water. Finland contains several lakes, of which **PAJANA** is the most noted.

A country extending through 26 degrees of latitude necessarily possesses great varieties of **CLIMATE**. The name of Russia, however, is generally connected with an idea of cold; but this applies only to the northern districts, for those of the opposite extreme participate in the temperature, and yield the products of southern Europe. With respect to climate, European Russia may be divided into three distinct regions: the cold one from 60 degrees northward; the temperate, between 50° and 60°; and the warm, from the 50th degree to the southern extremity. In the first of these, the severity of winter maintains a protracted sway, and confines the labours of agriculture to a very limited period. Little vegetation appears before June; but then the accumulated heat of almost continual day renders its progress vigorous and rapid.

The extremes of heat and cold experienced at *St. Petersburg* during ten years were as follow:

Year.	<i>Greatest Heat.</i>			<i>Greatest Cold.</i>	
	Day.	Degree of Fahrenheit.		Day.	Degree of Fahrenheit.
1782	12th July	85°	.....	16th February	29° below 0.
1783	17th June	88	.....	9th January	23 ditto
1784	29th July	92	.....	30th January	8 ditto
1785	23d July	86	.....	3d March	22 ditto
1786	27th June	87	.....	2d January	24 ditto
1787	13th June	92	.....	9th February	14 ditto
1788	18th July	95	.....	{ 20th January } { 23d December }	15 ditto
1789	19th July	90	.....	12th January	20 ditto
1790	31st July	78	.....	3d and 10th February	8 ditto
1791	15th June	86	.....	7th and 22d December	10 ditto

Frost usually sets in, at *St. Petersburg*, about the end of September, and continues till the beginning or middle of May. Snow generally begins to fall about the middle of October, and continues to cover the ground till the spring has far advanced, and the increased influence of the solar beams cause the fleecy mantle to dissolve. The *Neva* is commonly frozen up from the end of November to the beginning of April, during which period the thickness of the ice is from 24 to 40 inches, the medium thickness being about two feet and a half. On an average of ten years, it was found that there were 103 days on which rain fell, 72 on which snow descended, and 90 of clear serene weather. The mean temperatures for five years were ascertained by experiment to be as follow:

Year.	<i>Mean temperature of the year.</i>		<i>Mean heat from 1st May to 1st November.</i>		<i>Mean cold from 1st November to 1st May.</i>		
	Morn. and Even.	Afternoon.	Morn. and Even.	Afternoon.	Morn and Even.	Afternoon.	
1787	38° Fahrenheit	50° Fahrenheit	53° Fahrenheit	66° Fahrenheit	22° Fahrenheit	32°	
1788	36	48	52	66	16	27	
1789	39	50	57	67	25	24	
1790	38	46	51	60	30	37	
1791	40	50	52	61	30	46	

No particular winds decidedly predominate in these regions, as those from one quarter prevail during one year, and those from a different point of the compass are, perhaps, experienced in the greatest strength and continuance in the next. The transitions of the weather from one temperature to another, however, are sometimes remarkable. Fahrenheit's thermometer has been known at St. Peterburgh to be at 3° one day, and nearly 37° the next ; making a difference of about 34° in a few hours. Storms of thunder and lightning seldom take place in these northern regions ; but the aurora borealis is very frequent, and the atmosphere is often seen to discharge its electric fluid without any thunder being heard.

In many parts of the middle region the winters are long, and their remoteness from the sea often renders the cold intense. This district is, notwithstanding, capable of producing all kinds of grain and fruits common to the middle regions of the temperate zone.* Near Moscow, the rivers are generally frozen as early as the beginning of November ; and the ice seldom breaks up till the middle of March. The buds of the birch expand in May, and its leaves fall in September. In the southern parts of this second region, particularly in the government of Tula, Orel, Kursk, and Kiev, which stretch from about the 50th to the 55th degree of latitude, the climate resembles that of some parts of France. It produces apples, pears, and plums, of the finest quality and in the greatest abundance. Melons and arbuses, also grow in equal profusion. Here, as well as in the former region, the year embraces only two seasons. Snow clogs the path of retreating summer, and a vivid sun at once dissolves the winter's frost, and changes its deep covering into a wide spread deluge, which is almost immediately succeeded by all the insignia of a splendid summer. Storms of thunder and lightning, are neither numerous nor violent ; but are most frequent where the clouds are impeded in their progress by the Uralian mountains.

The southern regions present the luxuriance of warm latitudes, and produces wine and silk, with abundance of choice fruits. The spring begins with March, and continues to the end of May. This is the most pleasant and healthy season of the year. Nature is then arrayed in her most brilliant colours, and every aspect under which she is viewed is a fresh source of delight. In June, the influence of the sun becomes powerful, the plains gradually lose their verdure, the springs are dried up, and the rivers cease to flow. Fahrenheit's thermometer in the shade often exceeds 100°. August passes away, and September is sometimes far advanced, before the fiery glare of summer abates, and the diminished intensity of the solar beams, give any indications of approaching autumn. In this season rain and dew seldom fall ; but in the peninsular province of Taurida, the heat, during the middle of the day is happily tempered by refreshing breezes from the sea : which are succeeded in the evening by others from the land. Here the climate is salubrious ; though in some other districts of the south extensive swamps and saline steppes render it unhealthy. Autumn is mild and pleasant, but as it advances the nights become cold, and this season is the most sickly in the year. In winter the tops of the mountains are covered with snow, but it seldom falls in the vallies.

The SOIL of Russia varies from the most fertile, which yields luxuriant crops almost without care and toil, to that which is perfectly barren, and incapable of being rendered productive. Morasses and salt plains likewise occupy vast tracts of country, and combine with almost interminable forests to restrict cultivation within narrow limits. In many parts of the central and southern provinces, particularly along the banks of the Don and the Volga, the soil is extremely rich, and repays the scanty labour bestowed on it with unmerited profusion. Near the banks of these rivers it chiefly consists of a deep black mould, strongly impregnated with salt-petre. Many parts of the north abound in sand, the sterility of which is

increased by the almost perpetual dominion of winter. Barren deserts also occur in the southern regions, and wide-spread plains, impregnated with salt, have already been mentioned as one of their distinguishing features. The governments of Volodimir and Riazan are generally esteemed the most productive. There the soil consists of a rich vegetable mould, and yields all kinds of grain and esculent vegetables in great abundance. On some of the steppes the grass grows to the height of a man, and in others the meadows and pastures feed numerous herds of both large and small cattle.

The FORESTS of Russia are perhaps unequalled by those of any other European country, and chiefly consist of pines, cedars, firs, linden, and birch. The shores of the Volga, the Ocka, the Don, and its tributary streams, are adorned with vast woods of oak, whence ship-timber is conveyed to the ports of the Baltic and the Euxine. The Valchonskoi Forest, through which the road lies from Viesma to Moscow, extends on all sides to a great distance. The governments of Olonetz, Archangel, Perm, and other northern regions, are likewise covered with forests of unknown extent. Even the road from Petersburg to Moscow runs chiefly through an uninterrupted succession of woods, in which either towns or villages seldom appear.

The fir, the pine, and the black pine, are the prevailing trees in the northern parts of Russia. The last is used for fuel and charcoal, and the pine for pitch. The cedar grows in abundance on the Ural mountains, and is often cut down by the inhabitants, that they may the more readily gather its cones, which yield excellent oil. The larch flourishes in the north of Russia, and is employed in ship-building. It likewise produces turpentine, and is converted into charcoal. In addition to the several forest-trees already mentioned, the beech, the elm, the maple, and the poplar, grow in the southern regions of the empire. The birch is used in various ways. Its bark is employed in tanning and the preparation of tar; its leaves afford a yellow dye, its sap a liquor called birch wine, and its wood not only supplies fuel, but is converted into vessels for many domestic purposes. The linden is likewise equally valuable. Its outer bark is manufactured into carriages, baskets, trunks, and covering for cottages; and the inner rind into mats. The rind of its young shoots is platted into shoes for the boors. Its blossom supplies food for bees and its wood is made into boats, or converted into potash.

Russian AGRICULTURE is, generally speaking, in a very rude and neglected state; nor can it be otherwise while society is composed only of nobles and slaves. In the northern regions, both the soil and climate are unfavourable to its progress, and a few patches of feeble rye are almost the sole evidences of its existence. The thinly-scattered inhabitants chiefly derive a scanty subsistence from the fishery and the chase.

In Finland, also, the inhabitants grow very little grain, but chiefly depend on the purchases they are enabled to make by the sale of their wood. In the more favourable parts of the central and southern regions, all the arts that improve and augment the produce of summer are often neglected. Even the rich stores of grass which nature spontaneously presents, are not always secured against the hour of future need, for where large crops of hay might be made, the cattle are frequently obliged to seek their slender food, during winter, beneath a thick covering of snow. "The productions of this extensive empire are as various as the soil and climate. Here the gifts of Providence are scattered with a profusion which, while it corresponds with the prodigality of the inhabitants, forms a singular contrast with their indolence, poverty, and unskilfulness in the arts of wealth and comfort. The Russians at once suffer from want, and allow abundance to corrupt. Though they might supply the world they depend on others."

To illustrate the present state of Russian agriculture, the following facts have been recently stated.—“The harrow consists of short wooden pegs, driven into thin laths, woven together with willows. The use of the roller is hardly known. A crooked stick frequently serves as a flail. To drain moist lands, or swamps, is not at all the practice, though they are so numerous and prejudicial to man and beast, and might be converted into the finest corn fields. The steppe lands are employed a short time without manure and then forsaken. When a boor has fixed on a piece of forest land for the purpose of making it arable, together with the bushes and young wood, he cuts down and consigns to the flames, trees which have stood for two centuries, and are fit to be the mast of some great admiral. If he cannot fell such large trees, stripping them of their bark, he leaves them to wither, and kindles the brush-wood under them. In burning the dry weeds and grass for the purpose of manure, the forests are sometimes set on fire, and consumed for miles. The boor has no conception of artificial manure, marl, chalk, or pond-mud. The land is seldom clean harrowed.”

The Agricultural Products in European Russia are nearly the same as those in England and Germany. Oats, rye, wheat, and barley, are sown in most parts; and, notwithstanding the neglected state of cultivation, are raised in considerable quantities. Rice is grown in some of the southern districts; but hemp and flax are the principal objects of Russian culture. They are not only produced as a regular crop, but grow wild in many places on the Uralian mountains. Hops and tobacco are cultivated in some of the southern provinces. Beyond the 60th degree of latitude the vegetable productions are scanty and resemble those of the northern parts of Norway and Sweden. Between the 50th and 60th degrees they differ little from those of Great Britain and Ireland. Madder, woad, saffron, with tobacco, mustard, capers, and rhubarb, are grown here. Almost all sorts of culinary vegetables are cultivated, but cabbages, onions, garlic, cucumbers, and turnips, are raised in the greatest abundance, and form a large portion of the food used by the peasants. This region is plentifully stocked with fruit-trees and shrubs. Vast orchards of apple, pear, plum, and cherry-trees are seen in every direction. One species of apple, of an agreeable flavour and acid taste, is said to grow to the enormous size of three, and sometimes four pounds each. Another kind, which has been introduced from China, is so transparent that when held to the light the core can be distinctly seen, and the pips may be counted. Cherries are produced in such abundance that both wine and vinegar are made of them. Nuts and walnuts are likewise very plentiful. The produce of fruit bearing shrubs and several species of wild berries, is almost incredible. These last are annually gathered in vast quantities, and eaten either raw or preserved. They include gooseberries, currants, strawberries, cranberries, with various other kinds.

Among the common products of the southern regions, in addition to many of those of the middle districts, are *maize, rice, and cotton*. The fruits comprise *chestnuts, almonds, pomegranates, olives, figs, peaches, apricots, and mulberries*, with various kinds of grapes and several other delicate fruits of southern climates. The vine is cultivated by the Cossacks of the Don and some other tribes; but in an imperfect manner. The water-melon often weighs 30lbs. and is of an excellent flavour. These various products, however, must be ascribed to the almost spontaneous fertility of the soil, and the benignity of the climate, rather than to the care and industry of the inhabitants.

When the *Zoology* of a country includes quadrupeds so opposite as the Camel and the Rein-deer, the great variety in the animal kingdom may easily be inferred. This is the case in the wide-spread regions of European Russia. Cattle abound in many parts, and form the principal wealth of the inhabitants. In some places

the breed is large, and has been much improved ; but they are attended with little care and are frequently left to seek their own food in the fields and forests. Buffaloes are numerous in the south ; and various breeds of sheep are spread over so wide an extent. Though, in general, their wool is coarse, they have in some instances been considerably improved by an intermixture with superior breeds. The *long-tailed* kind, kept by the Cossacks of the Don, and other tribes towards the south, yield wool of an excellent quality ; and some, produced in other places, is little inferior to the English. The large sheep which range over the steppes of Taurida are covered with coarse wool mixed with hair ; but the skins of their lambs furnish a fine-coloured and valuable fur, in great request in Russia. The silky-fleeced Tauridan is less than the former, and roams over the mountains and elevated parts of that country. Several other inferior varieties are also common. Sheep, indeed, are so numerous in the southern provinces, that a common Tartar often possesses a flock of 1000, and a rich one of 50,000. There are also great numbers of Swine in Russia ; but, notwithstanding their food is so plentiful, they are seldom large.

Much attention is paid in Russia to the noble animal which so generously shares with man the dangers of the battle, the sports of the field, and the labours of agriculture, and various breeds are found in different parts of the empire. Great numbers range over the steppes ; and, notwithstanding the diversity of climate and treatment, the native Russian horses have a considerable resemblance to each other in every part of the country. All have ram-like heads, long and meagre necks, broad chests, and a compact make. They are far from being handsome, but are hardy and active. In the governments of Moscow, Tambof, Kazan, and some others, the native breed has been improved by the introduction of foreign horses. The Tartar horses are of known excellence ; and in Taurida they have been crossed with the Turkish and Persian. Those of the Cossacks are small but docile and indefatigable. The Russian cavalry is chiefly composed of Lithuanian horses. The government of Archangel supplies a useful poney, and the saddle horses of Livonia are much esteemed. The Russian nobility pay great attention to the breed of this animal, both for the carriage and the sledge, and there is scarcely a capital in Europe where finer horses are to be seen than at St. Petersburg.

The *ass* is little used in Russia, but, as well as the camel and dromedary, it is sometimes employed for domestic purposes in the southern provinces. The rein-deer is the principal domestic animal in the northern parts. Goats are common in most districts ; and are kept both for their milk and hair. The peculiar species bred in Taurida sheds its fleece of downy wool every spring, which is readily obtained by combing the animal at that season. In both silkiness and elasticity it exceeds the finest wool, and is employed as the chief material in the manufacture of valuable shawls.

Numbers of wild animals roam over the woods and wastes of Russia ; and supply innumerable objects both of amusement and profit to the hunter. Among these are the bear, the wolf, the lynx, the fox, the deer, the elk the antelope, and many other smaller species. Those kinds, however, which are most valued for their furs are inhabitants of Siberia ; but hares and rabbits are common to all parts. The white bear frequents the islands and shores of the Frozen ocean. The wild boar is found on the steppes of the Volga, and the borders of the Uralian forests ; and is often hunted by the Cossacks, but is seldom killed without danger. So much does this animal fatten on the roots and salt plants of the steppes, that he often weighs more than six hundred weight. The flesh is firm and well flavoured, and is esteemed a delicacy in Russia. The antelope ranges in large herds on the southern plains ; but is never seen beyond the 55th degree of latitude. The *Bisam*

rat is found in the vicinity of the Don and the Volga, and is caught for the sake of its skin. This animal burrows upwards in the steep banks of the lakes, till it makes its bed above the level of the water. In these retreats it lies during winter ; and when the lakes are frozen it breathes the subterraneous air alone, but as soon as the ice thaws, it quits its abode, and sports on the surface of the water. The effluvia contained in the glands beneath the skin of the tail, is of a more penetrating and permanent nature than the finest musk.

Russia possesses nearly all the species of the feathered tribes which are to be found in other countries of Europe. The numbers of wild fowls and birds of passage that flock to the desolate steppes, marshes, and forests, where they can follow the dictates of instinct undisturbed by the intrusion of man, is almost incredible. Some idea, however, may be formed of their number by their value when caught ; a bustard, weighing 20lbs. is frequently sold for 30 or 40 copecs, which is only equal to a few pence. All kinds of game are likewise plentiful.

The seas, lakes, and rivers abound with FISH, some kinds of which are peculiar to the Russian rivers. The sturgeon is caught in the Volga, and some of the other rivers, in the highest perfection, and of the greatest magnitude, often weighing from 1000 to 1500lbs. The sterlet is an excellent fish common in the Russian lakes and rivers ; and a rich salmon, peculiar to the *Kama*, a stream that falls into the Volga, is from three to four feet in length, and greatly esteemed. To this general diffusion of the common species of European fish through all the rivers of Russia, the eel forms a remarkable exception, none being found either in the Volga or in the rivers on the east of it. The herring and the seal, which, in other places, are found in the open seas alone, are caught in some of the lakes, and even the rivers, of this country.

The MINERAL PRODUCTIONS of Russia are of great importance to the empire, and include the most useful kinds ; but they are chiefly obtained in the Asiatic regions. As many of the mines, however, are worked for the government, an account of the most valuable products shall be given here, reserving the local circumstances under which they are obtained for the description of the Asiatic part of the empire.

The primitive mountains supply granite and porphyry in great abundance. Alabaster is also found in extraordinary quantities and of every colour. Yellow, grey, and cloudy marble abounds in many places, and white is found in the Uralian quarries, little inferior to the finest Parian. A great variety of gems have also been discovered in the mountainous part of the empire.

Various parts of Russia yield gold, silver, copper, iron, and lead. The chief gold-mines are on the Asiatic side of the Uralian mountains, and were first opened in 1754. These annually supply about 6430 tons of ore, which yielded about 190 lbs. of refined metal. But the produce has now been increased, as is stated, to nearly 280lbs. of gold. The mines which were previously opened in the mountains of Olonetz, have either been abandoned or are now little productive.

Mines of silver are worked in several places, but chiefly in Asia ; and the whole produce is stated at 46,800lbs. of the refined metal. *Lead mines* have been worked in Russia for more than a century, and still yield a considerable quantity of metal. The number of workmen employed in all these mines is estimated at 70,000 ; and the value of the produce exceeds double the expenses of working them. *Copper* is obtained in the mountains of Olonetz, in the Uralian chain, and in Asia. The quantity of copper now annually obtained has lately been stated at 67,000 quintals, each equal to about 108lbs. avoirdupoise, which is consequently equal to 3230 tons : and its value exceeds £250,000.

Most of the mountains, and many of the plains, of Russia afford *iron-ore*, and

great quantities are annually procured, in the manufacturing of which about 100 forges and 800 hammers are constantly employed. The value of the iron is more than double that of the copper.

The whole produce of all the gold and silver mines belongs to the crown, with a sixth of the copper and one-eighth of the iron.—*Coal* has been found in various places, and attempts are now making, under the immediate sanction of the Emperor, for discovering it in others, who engaged men to go from England for that purpose. Salt abounds, and is found in the pure and solid rock, at the bottom of the lakes, in the liquid spring, and incrusting the plains. Rock salt is obtained in the government of Orenburg, and in the steppe of the Volga; the salt lakes of Saratof, Taurida, and other places, yield large quantities, as well as the impregnated springs of Perm and Novogorod. Glauber's salts, and several of the other saline species, are likewise found in various parts.

If the Salt springs of Russia be excluded from the class of MINERAL-WATERS, these dominions contain only a few *thermal springs*, *vitriolic-waters*, *naphtha*, and *incrusting-springs*.

Thermal springs are found in various places, and of different temperatures, from merely warm to 190° of Fahrenheit's thermometer. The most celebrated vitriolic waters are at Sarepta, near the banks of the Volga, in the government of Saratof, and are much frequented. The water is clear and saline, its taste not unpleasant, and its temperature generally about 10° of Fahrenheit above the common water in its vicinity. These waters are beneficial in various complaints, such as inflammations, cramps, and inveterate colds. They are supposed to contain about a 200th part of earthy and mineral ingredients. The spring is very copious. The principal places in European Russia where naphtha is found, are in the district of Perekop, in the government of Taurida, and in the Island of Taman; but it is still more abundant in the Asiatic part of the empire. Incrusting springs are numerous, and the mountains contain stalactic caverns, with springs that incrust substances with a coating of iron ore. The tophus strata, in the vicinity of the Volga, are likewise evidences of the incrusting property of the incumbent fluid.

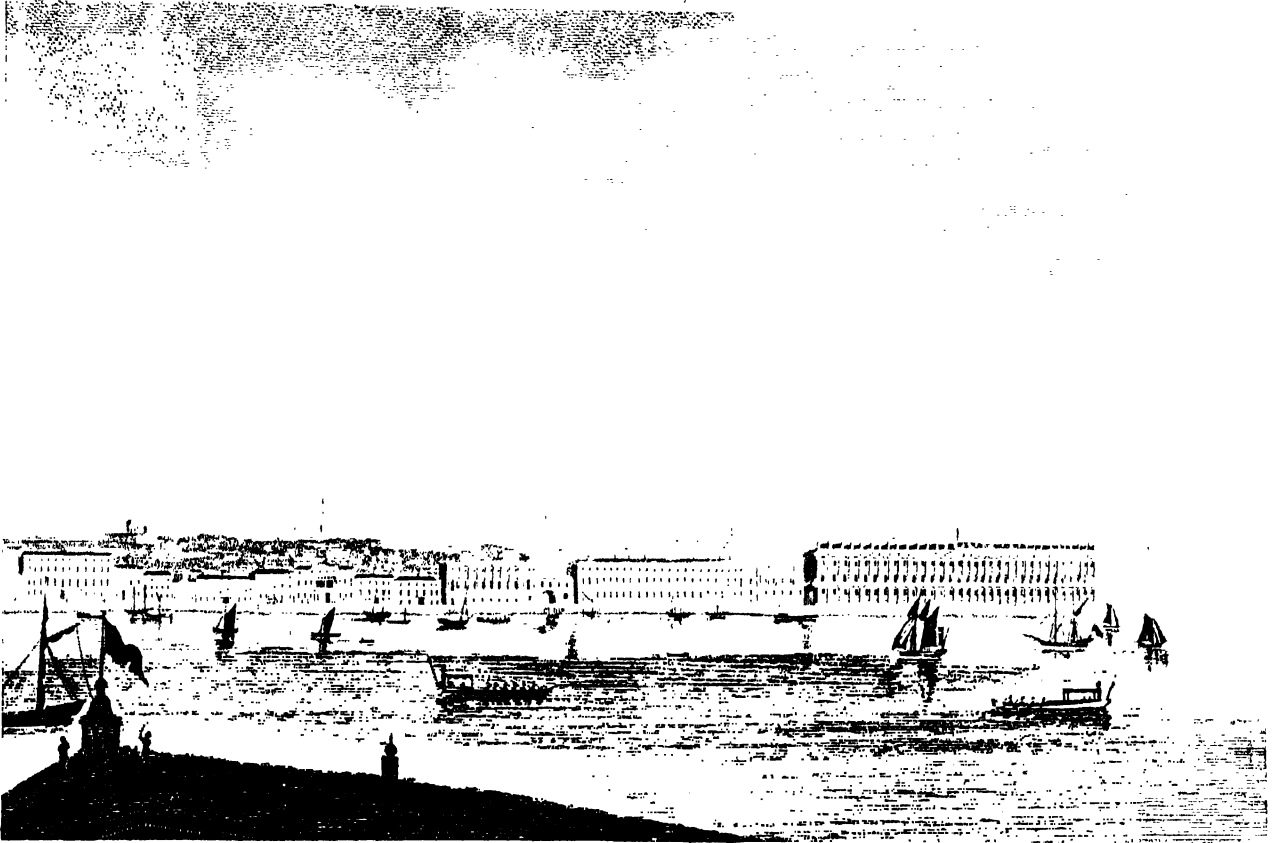
CHAPTER III.

Principal Cities, Towns, and Buildings.

RUSSIA is far from being distinguished for the number and celebrity of its cities and towns. They are, indeed, thinly scattered over a wide extent, and frequently separated from each other by vast deserts. Few of them possess either ancient or modern fame, and, consequently, a very brief selection will be sufficient. Moscow and St. Petersburg, however, are exceptions; the one, from its former renown and recent disasters; the other from the celebrity of its founder, the rapidity of its progress, and the splendour of its present appearance. Few empires can vie with Russia in the transfer of their capitals. Kiev, Novogorod, Twer, Moscow, and St. Petersburg, have all participated in the metropolitan dignity.

ST. PETERSBURGH is the imperial residence, and the capital of the Russian empire. It stands at the confluence of the river Neva with the Gulf of Finland, and is the wonderful creation of the last century. Peter the Great, whose commanding genius bade a race of savages start at once into a half civilized people, and whose transforming word changed the weeds of a wilderness into the columns and spires of a capital, fixed upon its site, in 1703, as the residence of his court, and the emporium of his dominions, when it consisted only of a few fishermen's huts in the midst of a morass. It now occupies both banks of the clear and majestic Neva, with several small islands formed by the canals and branches of that river, in the 60th degree of latitude. Notwithstanding the unfavourable nature of its situation, the rigour of its climate, and its distance from all the richest and most productive parts of the empire, an unparalleled exertion and expenditure have now rendered it worthy of its high destination, as the capital of the largest monarchy on the globe. Italian and other architects were attracted to St. Petersburg by the lucrative patronage of the court, and to them this magnificent capital is indebted for the various designs and elegant structures with which it is adorned. With respect to its splendid union of Asiatic pomp and European solidity, its singular assemblage of palaces, mansions, domes, and spires—Mr. *James* remarks, “It is impossible to give an account capable of portraying faithfully the surprise and astonishment generally experienced by the stranger, who, after the wild country he has just quitted, enters the city of Petersburg; its effect would be stupendous even without the aid of this contrast: whatever beauties may have been shadowed out by imaginary anticipation, every idea falls short of the excellence of the original, and every former relation one has heard, seems to describe it in terms far too cold. It is a city of new-built palaces, where the residences of individuals vie with the effusions of imperial magnificence, and where the buildings, destined for public works, hold a rank of ostentation still more striking, and are of a magnitude well agreeing with the mighty concerns of this vast empire.”

The old town stands on the right bank of the river, and still contains the cottage inhabited by Peter the Great. On the opposite bank rises the new town, intersected by three spacious canals, sweeping in a concentric and semicircular direction. These, with their handsome bridges, quays of granite, and balustrades of iron, greatly embellish the general appearance of the city. Three large and spacious streets diverge from the centre of the admiralty, which is one of the



View of Petersburg



finest buildings in Europe, and with its gilt spire and dome forms, in the line of each street, a magnificent termination of the vista. One of these is five versts (more than three English miles) in length. They are intersected by others, nearly uniform in their direction, but diversified by handsome esplanades. The houses are chiefly built of brick, and covered with stucco; but they are interspersed with mansions of hewn stone.

Many of the public and other buildings are magnificent structures, uniting all the symmetrical elegance of Grecian and Roman art, as a basement for the gilt spires, elevated domes, and gorgeous pride of the east. A mere enumeration of these would be tedious. The Admiralty is one of the largest structures in Europe, being more than a quarter of an English mile in front, and adorned with six separate porticoes. The new palace of the Emperor is greatly admired for its architecture, and many of the churches are handsome edifices. Among these the Cathedral, dedicated to the Holy Virgin of Casan, which was completed in 1813, after a labour of 15 years, and an expense of 15 millions of rubles, is the most beautiful modern ecclesiastical structure in Russia. As an honour to Russian genius, and a proof that the arts are not altogether strangers to these northern climes, it should be stated that this edifice was planned by Woronitchki, a Russian slave, and executed under his direction by Russian workmen. It is built in the form of a cross, each arm terminated with a Corinthian portico, and the whole crowned with a lofty cupola. The approach is noble, and the eye meets in all directions a forest of columns, exhibiting combinations of the most classical variety. The interior is also adorned with a blaze of pomp and magnificence. "The columns of the isles are of purple granite, highly polished; their capitals of brass and gold; rich paintings line the walls, and a dim mysterious gloom pervades the whole fabric.

The equestrian statue of Peter the Great, which stands in front of the Admiralty, is another ornament to the city; but of a different description. It derives its chief celebrity from the gigantic mass of granite which forms its pedestal. This was brought to its present situation by an extraordinary exertion of mechanical skill and ingenuity, though the weight was 1600 tons, and the distance many miles.

St. Petersburg contains a population of about 190,000 individuals. "Such is a short and rapid sketch of the Russian capital, or city, which, in extent, ranks with most others in Europe; in grandeur of outline perhaps superior to all, and in beauty of structure excelled by none. By none will the traveller be more dazzled at first sight, by none will he have his interest, his curiosity, and his admiration more excited. Its gilded domes, and sculptured turrets, its huge colossal piles, the majesty and arrangement by which they are grouped, will present him with a picture which, otherwise, he may have in vain sought for, except in the productions of his own fancy. This, however, is the distant view; he has not examined the picture closely, the charm is not to last long; the spell must soon be broken; the cup from which he has taken such bewitching draughts must be dashed from his lips, and his admiration will too often be turned into disgust. He will see every thing as it were in outline; nothing filled up; nothing perfect; nothing to please; every thing to astonish. He will see those lines harsh and strong; he will see their interspaces, void of that body, void of that softened colouring, on which the eye can rest; glitter and glare will render its film giddy; he will be dazzled, he will be overpowered, but he will not be pleased. He will here see a miniature of that picture which this vast empire presents; he will here see a mixture of splendid barbarism and mighty rudeness; while on the one hand he sees endless ranges of superb palaces, on the other he sees crowding around him those more like brutes

than human beings. Again, while he sees mean equipages moving along, he will see them crowded with a glittering courtier. He will see splendour in all its filth, and filth in all its splendour; he will see them in all the forms and varieties of mixture; he will see them forming alternate layers of the national character, stratum super stratum, the one ending where the other begins, and both so entangled with each other, that it is scarcely possible to see one at a time.”—*Johnston's Travels in Russia*.

CRONSTADT is situated on a small island in the Gulf of Finland, a few versts from St. Petersburg, and contains a population of about 40,000 individuals. This town not only forms a bulwark to the capital towards the west, but is the principal station of the imperial Navy, and is adorned with several public buildings, and supplied with all the requisites for a grand naval arsenal.

Moscow was the metropolitan city, before the rise of St. Petersburg. It is situated near the centre of the European part of the empire, on an extensive, fertile, and comparatively well-cultivated, plain, and watered by the river of the same name, which flows into the Volga. The following description of Dr. *Clarke* presents a lively picture of this city previous to the late conflagration.

“Moscow is in every thing extraordinary; as well in disappointing expectation as in surpassing it; in causing wonder and derision, pleasure and regret. Numerous spires glittering with gold, amidst burnished domes, and painted palaces, appear in the midst of an open plain, several versts before you reach the city. One might imagine all the states of Europe and Asia had sent a building by way of representative to Moscow: and, under this impression, the eye is presented with deputies from all countries holding congress; timber huts from regions beyond the Arctic; plastered palaces from Sweden and Denmark, not white-washed since their arrival; painted walls from the Tyrol; mosques from Constantinople; Tartar temples from Bucharía; pagodas, pavilions, and virandas from China; cabarets from Spain; dungeons, prisons, and public offices, from France; architectural ruins from Rome; terraces and trellises from Naples, and warehouses from Wapping. Having heard accounts of its immense population, you wander through deserted streets. Passing suddenly towards the quarter where the shops are situated, you might walk upon the heads of thousands. The daily throng is there so immense, that unable to force a passage through it, or assign any motive that might convene such a multitude, you ask the cause; and are told that it is always the same. Nor is the costume less various than the aspect of the buildings; Greeks, Turks, Tartars, Cossacks, Chinese, Muscovites, English, French, Italians, Poles, Germans, all parade in the habits of their respective countries.”

This was Moscow before the disastrous events which reduced most of these motley buildings to ashes. Then it contained numerous churches, handsome palaces, and public buildings. But when the French entered Russia, and designed to make Moscow their winter quarters, and the centre of their movements in the ensuing campaign, the constituted authorities heroically set fire to the city, to disappoint the ambitious hopes of the enemy, and frustrate his deep-laid plans. Nearly two-thirds of this ancient and renowned city thus became a prey to the flames. Among the public structures which escaped their ravage was the Kremlin. This was a vast assemblage of gaudy buildings, comprising the imperial palace and chapel, the cathedral, the public offices, the arsenal, and several churches. “A high terrace overhung the walls towards the river, at the end of which, towards the left, appeared the fantastical structure of the Trinity Church, and the awe-commanding portals of the Holy Gate, through which every passenger walks bare-headed. At the other extremity was a cluster of domes rising from the church of St. Nicholas, that of the Assumption, and the chapel and palace of the Czars; with the lofty

steeple of Ivan Veliki towering far above them all, and reflecting the beams of the sun from a globe of gold." These Buonaparte subsequently ordered to be blown up by mines, which partly succeeded. At that time Moscow was supposed to contain a population of 250,000 persons; many of whom left the city, lighted on their way by its flames. No sooner, however, had the French been compelled to retire from this scene of devastation, than they returned, and Moscow rose like a Phoenix from its ashes, renewed in all the vigour of youth, and surpassing its sire in the splendour and magnificence of its appearance. From a statement published in the Gazette of Petersburg, in 1817, it appears that the stone houses before the destruction amounted to 2567, those of wood to 6591, making in all 9158. There remained standing 526 stone buildings, 2400 wooden houses, together 2926. There had then been rebuilt 3137 stone houses, and 553 wooden ones, making together 8668. It appears from this, that the number of houses in general, and particularly that of stone buildings, had much increased. At that time the city contained 11,314 dwelling houses. The re-establishment of the shops and magazines had proceeded less rapidly. Of these there were before the burning 8521; of which 1368 remained; and there have been rebuilt 5544, making the total 6912. The present population of Moscow amounts to 312,000.

The most remarkable feature in the construction of this city is its churches. Before the late conflagration their number was about 1600; all differing from each other in size, form, and ornaments. They exhibited specimens of almost every kind of architecture. Some were built in the Gothic style,—others in the Asiatic.—some in the European,—and others in the Tartarean. Most of them were small, but a few were superb edifices. The spires and domes which ornamented them were still more numerous and fanciful, amounting to between five and six thousand. Many were painted white, yellow, or green, some gilt, and others covered with silver or tinned iron. Each spire was ornamented with a cross, over which towered the figure of a large eagle, the ensign of the empire; while beneath it frequently appeared the Tartar crescent, indicating the city to have been formerly under their protection.—Such were the churches of Moscow before the devouring element reduced many of them to ashes. Most of them, however, have been rebuilt and restored to more than their pristine splendour.

Moscow, to be seen with advantage, must be viewed from a distance. Then its glittering domes and painted spires seem to crowd the horizon. Thousands of spires and domes, varying in size, form, and colour, and grouped in the most irregular and picturesque manner, strike the eye, and fill the mind with admiration and delight; while the solemn tones of ponderous bells, constantly echoing through the vaulted canopy of heaven, sound like the dying peals of thunder.

Among the new public edifices to which the conflagration has given rise, the *Church of Christ*, the *Redeemer*, now building on the eminence called the Sperlingsberg, deserves particular notice, as it will be one of the most superb works of modern architecture.

"The whole height of the building from the bottom of the eminence to the cross, is about 110 fathoms. A flight of steps, 50 fathoms broad, beginning at the distance of 70 fathoms from the river Moscow, and forming five divisions, which serve for the foundation of this great building, leads to the middle of the eminence, where the foundation is laid for the lowest temple; that of the 'Birth of Christ,' which rises 15 fathoms towards the summit of the eminence, to which the flight of steps, divided into two, takes another turn. Then begins the temple, called 'The Appearance of Christ,' with a fine entrance, five fathoms broad, and on each end 89 fathoms long. Upon this temple, round a dome 25 fathoms in diameter, the third and highest temple will be erected, called, the 'Resurrection

of Christ.' The lowest temple has the form of a parallelogram, the second that of a square, and equal armed cross, and the highest that of a circle. In this temple there will be 48 bells, which form the four harmonic accords of music, and the solemn peal of which will particularly announce the festival of the Resurrection. The upper part of this temple, from the summit of the eminence to the cross, is 80 fathoms; on both sides of the lowest temple will be a colonnade of 300 fathoms, at the two ends of which there will be two monuments of 60 fathoms in height, one of them to be made out of the cannon taken from the enemy in the year 1812, between Moscow and the Russian frontiers, and the other of the cannon taken between the Russian frontiers and Paris."

The University, with several of the churches, hospitals, palaces, and other public buildings, deserve the attention of the curious traveller.

RIGA is situated in a sandy country on the right bank of the river Duna, a few miles from the gulf of that name, and is the most commercial city in Russia, except St. Petersburg. The river is of sufficient magnitude to admit ships of large burden to the walls of the towns. The trade consists in the export of all the Russian productions, and the import of most of the articles supplied by more southern climes for the use of the surrounding country. A bridge of boats, 2600 feet long and 40 broad, is thrown across the river in summer, but it is removed in winter to allow a free passage to the ice, which on sudden thaws often floats down the river, and does considerable damage to those parts of the town which are near its banks. Population about 30,000.

ABO, the capital of Finland, is a considerable town, situated on the east shore of the Gulf of Bothnia. This city was taken from the Swedes, and became incorporated with the Russian empire by the treaty between the two powers, in 1809. It contains several manufactures, a commodious harbour, a good trade, and a population of about 12,000 inhabitants. *Gustavus Adolphus* founded an academy here in 1628, which was afterwards raised to the rank of a university, and has subsequently been much frequented by both Finnish and Russian students. But the buildings of the college have been renewed since it became subject to Russia, and the original design carried into execution, with princely liberality, by the present Emperor.

ARCHANGEL is the most northern port, of any consequence, in Europe, and is situated near the mouth of the Dwina, on the borders of the White Sea. It carries on a brisk trade during the short period of the year in which it is accessible. Previously to the foundation of St. Petersburg, it was the principal trading port in the north of Russia. It contains about 1200 wooden, and a few stone houses. During its greatest prosperity it numbered 30,000 inhabitants, but they are now reduced to about one-third of that amount. The harbour is inconvenient and impeded by a sand bank. Vessels of all nations arrive at Archangel in June and July, and generally quit it by the end of September. More than 360 ships are annually freighted, with the produce of the country, which is conveyed thither by the Dwina and its tributary streams, when these rivers are open, and by means of sledges when the frost has set in. Large ships, built of larch and fir on the banks of the river, form one of its articles of export. Its trade in fish has also, of late, become extensive. It is likewise the principal depôt for foreign merchandise destined for Siberia; whence large supplies of tallow and pot-ash are received in return.

The interior towns of the Russian empire possess much less interest than those of most other countries. A few of them, however, deserve a brief description.

NOVOGOROD the Great, stands on the banks of the *Volchova*, which flows into the south-east extremity of the lake Ladoga. It is about 130 miles nearly south of St. Petersburg, and deserves notice for its antiquity, which ascends to the

5th century. Its splendour under the Dukes, with its power and wealth, as the capital of the subsequent republic, occupy a conspicuous place in the history of Russia. It is said to have covered a space of more than 63 versts in circumference, and to have contained a population of 400,000 individuals. Little is now left to mark its ancient magnificence, except the relics of its departed splendour. One general scene of decay presents itself. "Nothing but the wrecks of fallen greatness are visible on every side; and churches and temples are now lost in the mazes of the forest."

The streets present only mouldering walls, empty courts, dilapidated churches, and a few dwellings thinly scattered amidst large void places of desolation. Its population is reduced to less than 10,000; and even the surrounding country seems to participate in its decay, and its barren aspect to mourn the faded glory of the ancient city.

SMOLENSKO was a populous and flourishing town previously to the French invasion; but it was then reduced almost to ruins by the disastrous events of that campaign. It is a regularly fortified town, and the capital of the government of the same name. It stands on an undulatory eminence, and the unevenness of the walls surrounding it, with its towers and spires, give it a commanding effect. Scarcely any town, indeed, presents a more singular appearance than this. "The alternate rising and sinking of the walls, from the inequalities of the ground, the grotesque towers and their rude Gothic air; the steeples mingling with the branches of the trees, and the trees concealing the view of the houses; the number of gardens, orchards, and groves—altogether form the most picturesque and irregular group which can be conceived." Before the French invasion, the population of Smolensko was about 6000; but they were greatly reduced by that event. It was in the possession of the enemy for about three months, and on their departure every thing bore the marks of dreadful devastation.

VIASMA is situated in a low vale, and on the sides of the opposite hills, about half way between Moscow and Smolensko. The streets are regular, and most of the houses built of brick; but as each house is surrounded with a garden, it presents a complete picture of a town in a forest. It contains twenty-five Gothic churches, and about sixty spires and domes. The churches are particularly showy. The roofs are painted green, and the bodies red or white. The Dnieper flows through the town. Viasma contained about 12,000 inhabitants, and was the prototype of Moscow in its general appearance, as well as in its ruins; for there Napoleon made his fatal presence felt, on his approach to Moscow, and what he could not complete as he advanced, he finished in his retreat. But much has since been done towards effecting its restoration. The cathedral escaped the ravages of the invaders, and exhibits a fine specimen of the ecclesiastical magnificence of the country.

KIEV was the cradle of the Russian sovereignty, and owes its origin to a colony of Sarmates, who settled there antecedently to the Christian era. This celebrated city stands on an eminence near the banks of the Dnieper, which rolls its broad waters at the foot of that declivity, a smooth majestic river more than a verst in width. The appearance of this ancient city, as approached by the Moscow road, is thus described by a recent traveller.

"Arrived at the top," says Mr. *James*, "a new scene presented itself. The cupolas that before were but as spots in the view, faced us with a blaze of gold, and a thousand gay colours which dazzled the eye. The country below showed an unvaried plain of immeasurable extent, covered with a thick forest, through the middle of which the Dnieper, now dwindled to a streamlet, was seen winding its silvery path into the horizon. It was a land seeming untouched by man, and

afforded a prospect as wild in appearance as any that the most uncivilized tracts of America could furnish."

Kiev is also celebrated for its ancient Catacombs, which render it the resort of numerous pilgrims from all parts of the empire, and many of whom undertake a journey of 1500 versts on foot to discharge their vows.

TWER, situated at the confluence of the Mela, and the Volga, is classed among the finest cities in the empire. It is adorned with twenty-seven churches, two monasteries, and a number of other public buildings. It is considered as the centre of the extensive inland navigation, carried on by means of the Volga, and the great rivers that fall into it, and contains about 10,000 inhabitants.

TULA is a large and populous city, the capital of the province of the same name, and stands about 100 miles south of Moscow. It is noted for its works in iron and steel, particularly for the manufacture of fire-arms, in a large establishment carried on for the use of government. It contains a population of 40,000 people, more than 15,000 of whom are employed in the public works.

VORONETZ, the provincial capital of that government, is likewise an important town; but on approaching the southern extremity of the empire, the cities and towns situated on the estuaries of the large rivers, the coasts of the Euxine and the Sea of Azof, derive most interest from their local circumstances.

TCHERCHASKOY is the capital of the Don Cossacks, and is situated on the river Don, about 100 miles before it is lost in the Sea of Azof. It is thus described by Dr. Clarke in his late Travels in Russia. "The appearance of Tcherchaskoy, as the traveller approaches it upon the river, affords a most novel spectacle. Although not so grand as Venice, it somewhat resembles that city. The entrance is by broad canals intersecting it in all parts. On each side wooden houses, built on piles, appear to float on the water; to these the inhabitants pass in boats, or on narrow bridges, only two planks wide, with posts and rails, forming a causeway to every quarter of the place. As we sailed into the town, we beheld the younger part of the inhabitants upon the house-tops, sitting upon the ridges of the sloping roofs, while their dogs were actually running about and barking in that extraordinary situation. During our approach, children leaped from the windows and doors like so many frogs, into the water, and in an instant were seen swimming about our boat. Every thing seemed to announce an amphibious race: not a square inch of dry land was to be seen: in the midst of a very populous metropolis, at least one half of its citizens were in the water, and the other in the air." The population is estimated at 15,000 individuals. •

NICHOLAEV is the chief town in the southern part of the Russian empire, and makes a splendid appearance, but is of very recent date. It is almost surrounded by the broad and ample channel of the river Bog. A short time has elapsed since it was only a miserable village; and the extensive arsenals, storehouses, and other public works, show that great efforts have been made to render it a place of importance. The admiral in chief of the Black Sea resides here, and the office for transacting the naval affairs of this part of the empire is among its public buildings. Dr. Clarke, who visited it when in Russia, observes, "There is no town to compare with it in all the south of Russia, nor any in the empire, except Moscow and Petersburg. Its elevated situation; the magnificence of its river; the regularity that has been observed in laying out the streets, and their extraordinary breadth; the magnificence and number of the public works, with the flourishing state of its population, place it very high in the small catalogue of Russian towns."

This southern extremity of the empire also contains several other ports which are fast rising into consequence. Among these are ODESSA on the

northern coast of the Black Sea, and *CHERSON*, on the estuary of the Dnieper. Odessa is one of the best harbours and most frequented ports on the Black Sea; to which great part of the trade of Cherson has been transferred. The number of inhabitants in Odessa is about 18,000. Cherson is situated nearly 60 miles from the sea, and was founded principally by the exertions of prince Potemkin, so lately as 1778. It was designed by the Empress Catharine to be the St. Petersburg of the Black Sea, and was therefore endowed with privileges similar to those conferred on the capital and Archangel. The insalubrity of the climate, however, and the difficult navigation of the river, caused it to decline, and most of its trade has been transferred to Odessa and Nicholaef. Cherson has also been rendered memorable as the burial place of the renowned "Potemkin, the illustrious, the powerful; of all the princes that ever lived the most princely, of all imperial favourites the most favoured;" but it is still more endeared to every lover of humanity as the place where the benevolent Howard, in 1790, closed his unostentatious, but superlatively magnanimous career. These two celebrated characters are thus strikingly contrasted by Dr. Clarke. "Mysterious Providence, by events always remote from human foresight, had wonderfully destined that these two men, celebrated in their lives by the most contrasted deeds, should be interred nearly upon the same spot. It is not within the reach of possibility to bring together, side by side, two individuals more remarkably characterized by every opposite qualification; as if the hand of destiny had directed two persons, in whom were exemplified the extremes of vice and virtue, to one common spot, in order that the contrast might remain a lesson to mankind; Potemkin, bloated and pampered by every vice, after a path through life stained with blood and crimes, at last the victim of his own selfish excess: Howard, a voluntary exile, enduring the severest privations for the benefit of his fellow creatures, and labouring, even to his latest breath, in the exercise of every social virtue."—*Travels in Russia*. Howard's tomb is at a short distance from Cherson, on the road to Nicholaef; and a small brick pyramid or obelisk has been raised over his grave, instead of the sun-dial he had requested.

TAHANROG is a flourishing commercial town, situated on the right bank of the Don, nearly opposite the ancient town of Azof, and contains about 10,000 inhabitants.

BARCHISARY, in the southern part of the Crimea, also deserves notice. "The romantic situation of this ancient Tartar capital, in a deep valley between two ranges of gigantic and perpendicular rocks, the ancient palace of the descendants of Djinge Khan, with its fast decaying remains of Asiatic luxury and Tartar royalty; the numerous fruitful little gardens attached to almost every harem in the city, each encompassed with high walls, erected by the morose jealousy of the Moslem race, to exclude the females for ever from the view of strangers, together with thirty-two mosques and their towering minarets, and seventy-nine fountains of the purest and most wholesome water—all combine to render this place both striking to the spectator and interesting to the stranger."

CHAPTER IV.

Manufactures—Fisheries—Commerce and Shipping.

THE MANUFACTURES of Russia, though less extensive and diffused, in comparison with its population, than many other countries, are still far from being unimportant. They embrace various articles which are exported for the supply of foreign states. Much attention also is paid to their extension and improvement by the present Emperor, and they have for several years been in a progressive condition. The privilege of engaging in arts and manufactures, was, till very lately, reserved for the nobility and the first and second class of artizans alone. But the Emperor Alexander, in the true spirit of improvement, has, by an imperial Ukase, dated December 1818, removed this obstacle to the free exercise of genius. The peasants, therefore, as well as the nobles of the empire, are now allowed to follow their inclinations in this respect, and to engage, both in manufactures and trade, on their own account. Among those articles which are most extensively made, and for which Russia furnishes the materials in the greatest abundance, are linen, leather, isinglass, and kaviar. Large quantities of these are exported. The two latter are prosecuted with great success on the banks of the Volga, and other great rivers in the southern regions; the one being made of the air-bladder, and the other of the salted roe, of a large species of sturgeon, with which those rivers abound. Manufactures of silk, cotton, woollen-cloth, sail-cloth, hats, lace, glass, porcelain, oil, soap, candles, cordage, and paper, likewise occupy a part of the Russian population. Nor is any manufacture more extensive and productive to the revenue, or more injurious to the welfare of the people, than that of spirituous liquors. Manufactures of pitch, tar, pot-ash, alum, salt-petre, and gun-powder, with iron, brass, and copper works, are numerous. Cannon, and all the other implements of war, are made in great numbers; and several steam-engines were lately purchased in England, for the improvement of these national establishments. Breweries and sugar-refineries have likewise been introduced. But as the Russian population is yet inadequate to the proper cultivation of the soil, many of its products are either exported in a raw state, or only so far prepared as to fit them for that purpose. The Russian leather is made in a peculiar manner, and is superior in strength and durability to that of other countries. The number of tanneries is about 850. The manufactories of linen are nearly 300, and those of silk more than that number, while the glass-houses exceed 100. Several of these establishments are carried on for government, and some are royal monopolies. Much time, however, must elapse before the genius of liberty, and the general diffusion of intellectual culture through the vast mass of heterogeneous materials that constitute the population of the Russian empire, can raise its manufactures to that state which they seem destined ultimately to attain.

The FISHERIES of Russia form an important part of her industry, both as they supply her with articles of immediate subsistence, and commodities of foreign trade, or domestic commerce. The Volga, and most of the large rivers, abound with fish; but these are, perhaps, more numerous in the *Ural* than in any other. This is usually considered as an Asiatic river, but the fishery is principally connected with the welfare and domestic commerce of the European part of the

Empire. This fishery belongs entirely to the Cossacks, to whom it has proved an inexhaustible source of wealth. The manner in which it is conducted, is thus described by Mr. *Rordansz* in his "*European Commerce*."

"The river Ural flows into the Caspian Sea; when winter approaches, the fish seek refuge in the river from the storms which at that season visit the Caspian. They ascend the river in such immense numbers, that it is hardly possible to form an idea of it, and stop at different places where they find sufficient water and food. The Cossacks carefully observe, beforehand, all the places where such a mass is collected, and wait there patiently till the river is frozen over. On the first of January the fishery begins upon the whole river, from the capital town Uralski, down into the Caspian Sea. Above and below the several banks of fish, the hetman first causes the river to be blockaded by means of large double nets extended across its whole breadth, which is effected by cutting in the ice a ditch, if it may be so called, two feet broad. As soon as it is certain that the fish cannot escape, the governor of Orenburg and the hetman of the Cossacks repair to a certain place on the bank of the river, and on both sides of it, above 30,000 Cossacks are ready, each in his own sledge, drawn by a strong and swift-footed horse, and armed with a harpoon and an axe. By the order of the governor, a cannon is fired as a signal for beginning: hereupon the Cossacks all rush upon the river, and drive full speed to the fish-bank, enclosed with nets, which is usually some versts distant. Those who arrive first, are praised not only for the swiftness of their horses, but for their courage, for this racing is attended with no little danger; because, if any one should be so unskilful, or so unlucky as to overturn his sledge, all those that follow would infallibly drive over him. As soon as the Cossacks reach the place where there is such a bank of fish, they immediately cut a hole in the ice with their axe, and thrust in their harpoon, and the quantity of fish is so great, that they never fail to strike one at every time. The terrible noise caused by the driving of 30,000 sledges over the frozen river, naturally terrifies the fish, which try all to escape at once, but are hindered by the nets. The greatest difficulty for the fishermen, is to draw out the fish, and they are often obliged to call their comrades to assist, for they sometimes spear fish weighing 150 or 200lbs.; but in such cases they must divide the fish with him who assists them. This fishery continues the whole winter, during which the Cossacks dwell in tents on both sides of the river. They proceed successively from one bank of fish to another, down to the mouth of the river. During this time, the river affords a very peculiar spectacle; both its surface and its two banks are covered with a countless multitude of men, who are in constant motion. Traders come from the remotest parts of the empire to buy the fish immediately from the Cossacks, with a great train of sledges, all loaded with salt; they constantly attend the fishery in its progress down the river to the sea. Every evening the Cossacks sell to them what they have caught during the day, and receive payment on the spot. The merchants send the fish (which are frozen quite hard) to Moscow, Casan, &c. and also an incredible quantity of the salted roe of sturgeon, known under the name of kaviar. It is astonishing what a great number of different kinds of fish are found in the Ural, and they all attain an extraordinary size, particularly the sturgeon, salmon, and pike. The very best of these fish cost, on the banks of the Ural, not more than a halfpenny, or three farthings a pound. The day when the fishery begins, the governor has the fish, which the Cossacks send as a present to the Emperor, chosen from among the whole number, and sends them without delay to St. Petersburg, where they arrive quite frozen. The quantity is fixed, and it is said to be very considerable. In summer, the Cossacks also carry on the fishery,

but it is far less productive, and as the fish will not keep in this season, the *Cossacks* salt them immediately, and send them to the neighbouring towns for sale."

Besides the inland fisheries, the same branch of industry is pursued with success on the North Sea, especially on the coast of Finmark and Norway, to which great numbers of Russian vessels, chiefly from Archangel, proceed during the summer months. Several thousand persons are there annually engaged both in the fishery and in bartering the productions of the land for those of the sea, with the people on the coast. The whale and seal fishery is also prosecuted in the Arctic ocean.

In an empire of such vast extent, intersected by so many large rivers, and washed by seas so distant from each other as the Arctic and the Euxine, the Baltic and the Pacific, both the foreign and domestic COMMERCE must be extensive. Most of the Russian exports consist of the raw materials produced by her soil, some of which, however, are prepared for immediate use. Among the exports are iron, copper, hemp, flax, linen, sail-cloth, cordage, grain, tobacco, linseed, salt-petre, and oil; with timber, planks, masts, pitch, tar, rosin, pot-ash, wax, tallow, hides, candles, isinglass, kaviar, horse-hair, and a few other articles. Leather is the most important manufacture which Russia exports; and the greatest endeavours are used to keep the method by which it is prepared a secret. For these articles the Russians receive in return, silks, woollen, and cotton cloth, hardware, looking-glasses, stockings, watches, wines, brandy, and fruits from southern Europe, with colonial produce, paper, books, engravings, &c. from England and other states. The manufacture of those articles which contribute to the convenience and luxury of life has made great progress.

St. Petersburg is not only the capital of this vast empire, but the grand emporium of its trade; and immense quantities of goods are conveyed from all parts of the empire to this general storehouse of its commerce. It is estimated that one half of the trade of Russia is carried on within the confines of the capital. During the summer, the extensive inland navigation of the numerous rivers, and the canals uniting them, forms an easy communication between the remote provinces, and even the seas which wash the confines of the empire and the capital. The canal of Vishney Volotschech, which joins the Neva and the Volga, connects the Baltic and the Caspian, and forms a navigation of about 4000 miles. It is likewise the route to Persia, Siberia, and China, and the medium through which the internal trade of the empire is carried on. It is calculated that more than 3000 vessels annually pass through this canal; carrying from 100 to 400 tons each. The principal trade of Russia with Persia is by means of the Caspian, and the caravans that travel to Orenburg, a few degrees north of that sea. The chief articles are woollens, furs, iron, steel, copper, lead, and other native productions. Russia also receives in return silk, cotton, drugs, tapestry, gold, pearls, and diamonds. The trade of China is carried on from the frontier of Siberia, and consists in the exchange of furs, iron, copper, and other minerals, for Chinese silks, tea, musk, tiger skins, and a few other articles. The annual amount of this commerce is generally between three and four millions of roubles. With Turkey, the Russians likewise exchange kaviar, soap, leather, iron, and other produce, for olive oil, wines, rice, and fruits. A clear idea may be formed of the importance of the Russian ports on the Black Sea, from the circumstance that a few years ago, the annual exports from *Odessa* alone, amounted to more than seven millions of roubles; and the ships that cleared out from that port exceeded 800. Of the foreign European trade of Russia more than half is with Great Britain, the different articles of which have been specified above. For the extent of the imports, &c. See the Tables, Chap. IX.

CHAPTER V.

Government and Constitution—Laws and Jurisprudence—Army—Navy—Revenue—Political Importance and Relations.

THE GOVERNMENT of Russia is an absolute and despotic monarchy in the fullest sense of the term ; for the Sovereign unites in himself the legislative, executive, and judicial authorities. It is therefore a pure oriental despotism, which has the complete disposal of the lives and properties of all. Any subject, from the highest to the lowest, may be banished, and his property confiscated, at the pleasure of the ruling prince. The succession appears to be hereditary ; but, unlike most other absolute governments, one prince may be deposed and another raised to the throne without exciting any commotion in the nation. In managing the affairs of state the Emperor is assisted by a number of ministers and counsellors, of his own appointing, and under his own controul. The grand chancellor is the first officer of state ; and besides him there are ministers for foreign affairs, finances, war, marine, interior, religious worship, public instruction, and police. These, with the different councils in which they preside, are styled Imperial Colleges. The members of these colleges, with a number of other statesmen appointed by the Emperor, amounting altogether to thirty-five, compose the supreme council, which is invested with a superintending and controuling power over all the public offices. The *Senate* is another public body, established by the present Emperor in 1801, and of which his imperial Majesty is the sole president. This body is the guardian of the laws, and not only watches over their execution, but has the revision of both civil and criminal concerns. The power of the senate is limited by no authority but that of the Emperor. It receives reports from all the inferior departments, decides in every difficult case that arises in the lower tribunals ; and from its decrees there lies no appeal except to his Imperial Majesty.

In the general assembly of the Senate all questions are determined by a majority of votes, but these must amount to two-thirds of the whole. In the other departments of government unanimity is necessary. When a senator commits any breach of duty in that capacity, he can only be tried by a full assembly of the senate, and his Imperial Majesty alone can alter or mitigate the sentence. The senate is the organ of the decrees or *ukases* of the Emperor ; but it has not the slightest resemblance to a legislative body, as it neither speaks the sentiments of the nation, nor of the nobles, but of the Emperor alone.

The *Cabinet* is a distinct council from any of the preceding, and generally consists of ten members, including the high steward of the household and other state counsellors. This council manages his Majesty's private affairs, examines petitions, dispatches, and accounts, and watches over the produce of the revenue. It also assists the Emperor in deliberating on the appeals received from the senate. All these, however, are under the immediate direction of his Imperial Majesty, and derive their power solely from his appointment. The whole government, indeed, cannot, perhaps, be more appropriately designated than by the term *military fabric*, which is raised and depressed, at pleasure, by the Emperor.

The system of civil LAW in Russia consisted of a collection of rules and regulations derived from most of the States of Europe, and distinguished by

nothing but its barbarity and confusion, till Catharine II. caused it to be revised and improved. She divided the empire into provinces, and adopted a variety of regulations for the more effectual administration of justice. Courts are now established in each of the provinces, and judges appointed who are paid by the crown. But an impartial administration of justice cannot be introduced while the nobles are tyrants and the peasants slaves. The Russian laws admit of capital punishment for high treason only; and the humanity of the present Emperor has induced him to abolish torture. Felons receive the knout, are branded on the cheek and forehead, and sentenced to hard labour at the public works. Many of them are sent to the mines of Siberia. Numbers of these perish, from the effects of the knout, the fatigue of travelling nearly 5000 miles in fetters, and the unhealthy state of the mines, in which they are condemned to labour; so that more die under the actual infliction of punishment than the lenity of the laws would seem to indicate.

The armed force of Russia is both *Naval* and *Military*. The vast extent of the empire, in addition to the nature of the government, requires a large Army, and this has been increased by the late war much beyond its usual number. The nominal force is 600,000; but in time of peace one-fifth or one-sixth of this number is non-effective, and at least an equal number are required for garrison duty. At the beginning of the campaign in 1812, the utmost exertions of the Emperor could not bring into the field more than 200,000 men; but the events of that and the two following years have fully proved the bravery and intrepidity of those troops. The Russian army like that of the other States of Europe, has been reduced since the return of peace.

The Russian Navy is maintained on a respectable footing. Peter the Great found his country without a ship, and left it with fifty sail of the line. Catharine II. also paid great attention to the navy. This lately consisted of sixty ships of the line, with a great number of frigates and galleys. As the actual circumstances of the empire, however, do not require the maintenance of so large a fleet, some of these have lately been disposed of to Spain. But the navy is still supported on a scale fully adequate to the wants of the country, and divided into three distinct fleets. The fleet of the Baltic a few years ago, consisted of fifty-nine vessels, of which twenty were ships of the line; that of the Black Sea, of thirty-seven ships, twelve of them of the line; besides which the fleet of gallies amounted to about 190. Russia supplies abundance of all that is requisite for the support of a large navy, except sailors, in which she is deficient.

In attempting to estimate the REVENUE of the Russian empire, an insurmountable difficulty immediately arises from the very nature of the government, which not only precludes the amount of the revenue from being correctly specified, but even some of the sources themselves from being distinctly enumerated. According to the latest and most authentic accounts, it is nearly twenty-five millions sterling. This is disproportionate to the extent of her territory, yet the high value of money in Russia, compared with Great Britain, not only renders this revenue adequate to the expenses of government, but supplies large sums for the embellishment of the empire, the erection of public works, and the maintenance of benevolent institutions.—The revenue arises chiefly from a poll tax, first imposed by Peter the Great; a tax on the capital of merchants residing within the Imperial dominions; duties on the exports and imports, and upon law proceedings; together with the produce of the royal domains and monopolies. There are likewise stamp duties, and several other imposts.

With territories so immense, and points of contact with other states so numerous and distant—with a population so great, and inhabitants so capable of patient endurance, and physical exertion, the **POLITICAL IMPORTANCE** and **RELATIONS** of

Russia are commensurate. The late events in the history of Europe, still so fresh in the recollection of all, have raised this growing power to a commanding eminence, and given it a preponderance in the affairs of Europe it did not till then possess. But the effects of those events did not end there. The late campaigns brought thousands of the natives into contact with the fairest portions of Europe; with countries where arts and sciences, civilization and refinement, had made the greatest progress.—Even this little island, where freedom has fixed her hallowed abode, was submitted to their inspection. Here they beheld every thing new, every thing superior to their own. Their attention was excited, their curiosity was raised. Inquiries were made, and information gained; and its effects have already become apparent, and will doubtless continue to be developed for ages to come. Nor is it easy, in the present state of things, to calculate the influence they may yet have, both on their own country and the other states of Europe. This topic, in connexion with the physical condition of the country, and the rising energies of its inhabitants, is peculiarly striking. Man is an imitative being, and the very genius of rudeness is imitation. The exercise of this power is at first confined to objects of immediate necessity, and of the most simple kind; but as the mind expands, it embraces a wider range, and a more delicate selection. New models are sought, new ideas are imbibed, new channels are opened, and new powers are acquired for pursuing them. The peculiar talent of imitation possessed by the Russians, places them in the latter stages of this progress; and what now enables them to equal, may ultimately lead them to surpass, their prototypes.

Russia presents a political aspect, distinct from that of the other European kingdoms. While they had made great progress in the arts of civilization, and assumed decided characters, either from contact with, or opposition to, each other, Russia was enveloped in the shades of barbarism. Little time, indeed, has elapsed since it took the first step of rude civilization; and it is yet only emerging from a state from which most of the others arose some centuries ago. In physical strength it already presents a giant form, but in mental and moral energy it has still much to attain. But it possesses the advantage of having sprung into national existence in an enlightened and philosophical age. As in human life, so in the age of empires, youth is the season for imitation. If, therefore, Russia does not forfeit the advantages of her birth, by an adherence to barbarous customs and antiquated forms, but shakes off her prejudices as she would the superstitions of the old world, and selects her models with judgment, she may, at some future period, become the arbitress of continental Europe.

As the principal wealth of Russia consists in the natural productions of her soil, her greatest advantages must result from a cultivation of her internal resources, and her domestic commerce. By this means her wealth will be increased, her intercourse with other nations enlarged, the state of her arts improved, the condition of her inhabitants meliorated and her power augmented. The extensive rivers that intersect the empire, and the seas that wash its opposite coasts, are favourable both to its internal improvement and foreign commerce.

Ages, however, will perhaps roll away before Russia will become a formidable naval power. The Black Sea is of difficult navigation, and the egress to the Mediterranean easily disputed by the people possessing the shores of the Bosphorus. The Baltic is ill adapted to the use of large vessels, which are either injured by the ice, or blocked up in the harbours for several months of the year; while their passage to the ocean is also subject to interruption by a hostile power. The Arctic ocean is still more unfavourable, and the eastern sea is not only too remote, but its shores are too barren, and their population too scanty and uncivilized to afford any maritime advantages.

As Russia is in close contact with other states, from the confines of Sweden to the borders of China, its *POLITICAL RELATIONS* are both diversified and extensive. Nor are these confined to Europe. They stretch from the western limits of Asia through the central regions to the eastern shores, thus forming a line of connexion through the interior regions of the Asiatic continent, and opening routes by which the works of European skill and industry are exchanged for the rich productions of the eastern world. With European states this relation is still more immediate. Her military strength, her growing power, and her spirit of aggrandizement, form sufficient grounds of apprehension in contiguous countries. But, of all European states, the relation between Russia and Britain is the most mutually advantageous. This country can not only supply her with whatever is most adapted to her wants, but receive from her, in the largest portions, whatever she has to exchange. The skill and industry of Britain furnish her with numerous articles of immediate necessity, and with many others by which her lucrative commerce with the interior of Asia is maintained. Britain also supplies her with the finest models for improvement—the finest examples of perseverance and prosperity. In this alliance, too, Russia must find the most powerful check to any combination of the great contiguous states, which either jealousy or interest may prompt them to form, while the relative situation of the two countries, the difference between a continental and an insular state, the naval superiority of the one, and the benefits that must result from such an alliance to both, will necessarily render such a compact more lasting between Russia and Britain than between any other two of the European powers.

CHAPTER VI

Religion and Ecclesiastical Geography—Education—Language and Literature—Arts and Sciences—Manners and Customs.

THE ESTABLISHED RELIGION of Russia is the Greek Church, which embraces many superstitious rites and ceremonies, but rejects the supremacy of the Pope and the worship of images. In the mode of its worship, it maintains equal pomp with the Roman Catholic church, and is even more prolix in its ceremonies. Though the Russians exclude images, their churches are filled with pictures of saints. Almost every house, and even every cottage, has its picture, to which, both night and morning, as well as on entering at all times of the day, every member of the family offers adoration. They also observe numerous fasts, and practise various modes of abstinence, but the clergy have much less power than among the Roman Catholics.

The concerns of the church are under the superintendence of the college, called the *holy synod*, of which a layman is always president. On reforming the church, Peter the Great preserved the subordination of metropolitans, archbishops, bishops, and priests. The whole of the empire is divided into thirty-six bishoprics. All the dignitaries of the church are appointed by the Emperor; and the clergy consists of distinct bodies, the regular and the secular clergy. The bishops are always chosen from the former. The number of cathedrals in Russia exceeds 450, and the churches 26,000. The monasteries amount to nearly 400, and the nunneries to about ninety. The desire for a monastic life is very prevalent in this country; but these institutions are under certain regulations, which tend to check the abuses that prevail in many other parts of Europe. No man can become a monk till he has attained the age of thirty; nor can any female take the veil till she has completed her fiftieth year; and then not without the consent of her superiors. “Privation is the essential doctrine of the church: ‘*Que les Russes ne savent prendre le ciel que par famine*,’ is an old saying; and in truth the length of their regular fasts fully justifies the remark: seven weeks of abstinence are enjoined by the Greek church during Lent, the same from the first week after Pentecost to All Saints day, then again, fourteen days before the Assumption, and forty days before Christmas, during which times animal food and sexual intercourse are rigorously forbidden. The first period is terminated by extraordinary ceremonies relating to the history of the death of our Saviour, much in the same fashion as those exhibited by the Roman church in the course of Passion week; but on Easter eve the whole is wound up with, perhaps, the most striking and imposing spectacle ever invented by the votaries of religion. A representation of the sacred tomb is exposed to the people during the whole of the evening, and at night the resurrection is announced formally in all the churches. We entered the Casan church at a late hour; the nave, the aisles, in short every part was crowded to suffocation with a host of devotees; thousands of lighted tapers (for each bore one in his hand) glittered over the whole area, spreading an illumination as bright as noon. As the hour of twelve approached, all eyes were earnestly bent on the sanctuary; at length it opened, when there issued forth a long train of banners, crosses, &c.; with archimandrites, protopopes, and priests of all ranks, dressed in their sumptuous robes, of embroidered silk, covered with gold and silver, and jewels: they moved slowly

through the crowd, and went out from the doors of the church, as if to search for the body of our Lord : in a few minutes the insignia were seen again, on their return, floating above the heads of the mob, along the nave, and when the archbishop had regained the altar, he pronounced, with a loud voice, *Christos volseress*, 'Christ is risen.' At that instant the hymn of praise commenced, and a peal of ordnance from the fortress re-echoed the joyful tidings through the city. The world of Mongiks now saluted and congratulated one another in turn ; the days of fasting were at an end ; tables spread with provisions, in a short time made their appearance in the church, the forbidden meats were tasted with eager appetites, and a feast of gluttony, that annually proves fatal to some of the followers of this religion, took place of penance and prayer."

Complete toleration is allowed in Russia, for besides those which profess the religion of the established Church, there are about two millions of separatists, with a great number of Mahometans and Pagans, as well as Protestants and Roman Catholics. But the most singular of the Russian sects is the *Duhoborsti*, who, after many persecutions, have been allowed by the present Emperor to settle in Taurida, and to follow the dictates of their own religious principles. They have neither priests, church, nor pictures ; and reject both baptism and the Lord's supper. They are sober, industrious, and gentle, and distinguished by mutual affection, hospitality, and benevolence. They take great care to bring up their children in the principles and precepts of religion. Their worship is confined neither to place nor time, and consists of singing, praying, and reading the scriptures. They have all things in common, and their only punishment for those who have transgressed the rules of the society is banishment from the community.

EDUCATION, in Russia, was much neglected till within a late period, for though various schools, academies, and colleges were instituted, their benefits were chiefly confined to certain classes, and their influence was little felt in meliorating the general condition of society.

Several institutions were founded by Peter the Great and Catharine II. ; but the present Emperor has not only extended his fostering care to these establishments, but has acted upon a more enlarged plan, and embraced all classes of his subjects within the scope of his benevolent exertions. A great number of schools have lately been established, in the different provinces, for the education of the peasants. The academies and universities have been improved or re-modeled, and more amply endowed with funds, for the liberal support of the professors, and the better accommodation of the students, the number of whom has been greatly increased.

The Russian LANGUAGE is an improved dialect of the Slavonian. It is harsh and difficult of utterance, but it is said to possess great copiousness and pliancy. The alphabet comprises thirty-six letters, formed of the Greek characters, with others apparently of native origin. The language, however, has not yet been sufficiently cultivated to give it a precise form, and many works of Russian literature are written either in French or German. This language has also characters for expressing the sounds indicated in other tongues by several letters : one *c*, for instance, is used to express the *sch* ; and another the *ssch* ; the latter, however, is extremely difficult of pronunciation, even for a native.

Russia is not destitute of LITERATURE, but can boast of one venerable *Nestor*, who completed a history of the country about the close of the 10th century. Her authors, however, have not assumed a conspicuous place in the republic of letters ; though a series of poets, dramatists, historians, and miscellaneous writers has existed, who are by no means devoid of interest, or incapable of affording both pleasure and information to those who can read them. The ARTS and SCIENCES

remain in a low state, compared with their advancement in most other European countries. As the Russian character is marked by patient perseverance, rather than inventive powers, they are more distinguished for imitating the arts of other nations than for following original paths of their own. *Dr. Clarke observes, that "in whatever country we seek original genius, we must go to Russia for a talent of imitation. It is the acme of Russian intellect; the principle of all their operations. They have nothing of their own; but it is not their fault if they have not every thing that others invent. Their surprising powers of imitation exceed all that has hitherto been known. The meanest Russian slave has been found adequate to the accomplishment of the most intricate, and most delicate works of mechanism, to copy, with his single hand, what has demanded the joint labours of the best workmen in France, or England."*

Mr. *James* also observes, in reference to this subject,—“Newly extricated from barbarism, the infant mind is seized with the desire of pursuing whatever strikes the fancy, or serves to interest or amuse, while the labours of more rigid science and learning are entirely thrown aside. We find at Petersburg few men of abstruse acquirements, yet musicians, poets, and painters in abundance; and the nation has arrived in these arts, it must be confessed, at an highly reputable pitch of perfection. The works of art, though not fraught with the spirit of originality of the southern professors, yet display, in almost every branch, the most correct and refined taste; and even the natives shine, while the prejudices of their countrymen have denied them a fair share of patronage.

“The academy of arts is fostered by the superintendence of the crown, and from the revenues allotted to it, it is well furnished with models from the antique, as well as other matters suited to its institution. The labours of the students exhibit some of the highest specimens of imitative excellence; their designs in architecture are of great merit, and their pictures possess a free style of execution, combined with chasteness, and harmony of colour, seldom equalled in any modern school.” Their sculptors also display qualities of no mean description; but in poetry they have less to boast. Their music is framed in the Italian taste. Many of the national airs are extremely simple and regular; and some of the pieces of their best composers are in a style so singular, that their modulations rather surprise than please. There are a few, however, which possess a union of grandeur and simplicity wholly their own.

The cultivation of science has been encouraged by the establishment of various institutions for that purpose; and several volumes of the memoirs of the Academy of Sciences, founded at St. Petersburg in 1725, have been distinguished by the excellence of their papers. This has been particularly the case in the more abstruse parts of mixed mathematics. It should be observed, however, that a great proportion of its members have always been foreigners.

The chief of the Russian *Universities*, are those of St. Petersburg and Kiev, with the colleges founded by Peter the Great at Moscow. To these may now be added the university of *Abo*, in Finland; which has lately been renewed and endowed by the Emperor. Eighteen professors have also been appointed, with salaries of 4000 rubles each, from the state, and 10 from each student. The students at this university are generally numerous. With a view of aiding in the diffusion of knowledge, a degree at this university has been made pre-requisite both for obtaining the inferior offices of the state, and a certain rank in the army. A well endowed university has likewise been established at *Dorpat*, in the government of Riga. It contains 25 ordinary, and 10 extraordinary professors, with between 300 and 400 students.

In the vast variety of its population, and the elements of its society, Russia

presents an interesting, an instructive, and an unparalleled spectacle. More than eighty distinct nations are included within the limits of its wide-spread dominions, and thus exhibit man in every state of his physical condition, and in every modified stage of his moral and intellectual progress. This wide, this diversified range of human character, extends from the being who lives on the produce of the chase, who is clothed in the skins of his prey, and sheltered in the recess of a cave, or the cleft of a rock, to the wandering *Nomade*, who pitches his tent to-day, removes it to-morrow, and is entirely dependent upon the produce of his flock for his daily support.—From him the pyramid ascends to the humble peasant, the industrious husbandman, the ingenious mechanic, the wealthy merchant, the owners of almost unknown estates, and the *proprietors of men*, till it is finally crowned by the *Autocrat* of all the Russias. In intellectual advancement, this motley assemblage embraces the houseless savage, who wanders through the desert, ignorant of all the arts of life, and the man who, in his researches, approaches the confines of human knowledge. In political connexion some bow to parental authority alone, while others rank under the varying shades of democracy, aristocracy, and monarchy, in all their modified varieties.—Here too, is found all that pollutes and all that adorns the name of Religion; from the grossest of Pagan impurities and the absurdities of Polytheism, to the sanctity of the Christian principles, and the purity of the Christian faith and practice. It is not, therefore, too much to say that no other empire on the globe presents such a variety of objects, or such intensity of interest, to the observer of man.

The Slavonians are the most numerous, and constitute the greatest body of the population of European Russia. Many of the other tribes wander over the wilds of Asia, and will be described under the head of ASIATIC RUSSIA. The following remarks on the MANNERS and CUSTOMS of the Russians will therefore be confined to a few leading particulars, exhibited by the European inhabitants. Besides the Slavonians, this part of the empire embraces the *Fins* and *Laplanders* on the north-west; the *Samoides* on the north-east; with the *Cossacks* on the south, and the *Tartars* of Taurida on the south-east.

The Slavonic Russians are in general middle sized, robust, and vigorous, differing little in complexion from the inhabitants of Great Britain. Those towards the north are a more diminutive race, while in the southern regions they become tall and graceful. Their characteristic physiognomy, according to Mr. Tooke, is a small mouth and eyes, thin lips, white teeth, the nose usually small and turned upwards, the forehead low, the beard thick and bushy; and the hair varying from dark brown to red. The general expression of the countenance is that of gravity rather than sprightliness, but indicating much good-nature. Accustomed to implicit obedience from the nature of the government, and trained to the endurance of hardships and privation from their manner of life, they seem neither to fear danger, nor shrink from fatigue. They are inactive, subject to few diseases, and frequently attain old age. With the same general features the women have a delicate skin and a fine complexion, which they often destroy by a free use of paint. “On looking at their faces you easily discern the Tartar and Kalmuc ingraftation upon the old Moscovite stock. The visage is short, the bones of the cheek high, the forehead projecting, and the eyes small. Their stature is commonly of the middle size; and, from their habits of life, both men and women are inclined to be very corpulent. When a tinge of the Georgian Poles and Circassians mingles with the Russian blood, the result is the most exquisite beauty. But this is generally confined to the higher ranks; and there are such specimens of female loveliness among the nobility at Moscow, that were I a Praxiteles, I need go no further to form my Venus!”—*R. K. Porter's Travels*. By the frequent use of the warm bath,

and other stimulants, they attain early maturity, but their personal charms decay as prematurely ; and their intellect and accomplishments are seldom sufficient to preserve that empire which their beauty had won.

The inhabitants of Russia consist only of two distinct orders of society, the nobles and the peasants. The interval between these has sometimes been denominated a *tiers état*, but as far as relates to all the practical purposes of life, it is filled up by foreigners, who once enjoyed all the most lucrative branches of commerce ; and in which only a few of the natives yet participate.

“ The privileges of a nobleman consist in being exempted from military conscription, and from corporal punishment ; in having the right to establish manufactories, to possess land and slaves, to impose taxes, and to inflict chastisement upon them, &c. The charges on this class are to furnish recruits to the crown, and to pay a certain fee on the alienation of their property. Besides those who enjoy the above mentioned rights by inheritance, these advantages are attached to certain stations in the civil and military lines ; assessors in the chancery, for instance, and all officers of the army or navy, are called noble, though the possession of slaves is limited to persons above the rank of major. The imperial companies of trade at Petersburg also participate in certain of these immunities, and are allowed to use carriages with one pair of horses.”

The power of the Emperor over all classes of the nobility is absolute as theirs over their slaves. They can neither marry, nor choose a profession without his consent ; and their property is also subject to his controul.

These estates are valued not by the area and quality of the land they contain, but by the number of peasants they support. Several of the nobility possess more than 100,000 peasants or slaves ; and the property belonging to the head of the family of Scheremeter consists, according to their mode of calculation, of 125,000 slaves. Both in their privileges, and in their manner of life, these nobles seem to be exact copies of the great feudal Barons of the middle ages. Many of them, in the country, have households consisting of 500 or 600 peasants, who perform all the various duties of butchers, bakers, tailors, shoemakers, footmen, valets, surgeons, musicians, and comedians ; for which they are selected without discrimination. Their destinations are determined upon, and they are then qualified for them by the cudgel.—*James's Travels*.

While many of the nobles, however, are possessed of large estates, great numbers of them must be very poor, for the titles descend to all their children. The natural effect of such a law, in a state of society where the slavery of the many makes tyrants of the few, may easily be imagined ; and though the unfavourable view of both nobles and peasants, given by Dr. *Clarke*, in his late travels in this empire, may perhaps be rather too severe as a general delineation, yet it exhibits a lively picture of a people just emerging from a savage to a civilized state, and who have renounced the simple virtues of the one, and adopted only the vices of the other.

“ To this poverty, and to these riches, are equally joined the most abject meanness, and the most despicable profligacy. In sensuality they are without limits of law, conscience, or honour ; in their amusements, always children ; in their resentment women. The toys of infants, the baubles of French fops, constitute the highest objects of their wishes. Novelty delights the human race ; but no part of it seeks for novelty so eagerly as the Russian nobles. Novelty in their debaucheries ; novelty in gluttony ; novelty in cruelty ; novelty in whatever they pursue. This is not the case with the lower class, who preserve their habits unaltered from one generation to another. But there are characteristics in which the Russian prince and peasant are the same. They are all equally barbarous.

Visit a Russian, of whatever rank, at his country seat, and you will find him lounging about, uncombed, unwashed, unshaven, half-naked, eating raw turnips and drinking *quass*. The raw turnip is handed about in slices, in the first houses, upon a silver salver, with brandy, as a whet before dinner. The real Russian rises at an early hour, and breakfasts on a dram with black bread. His dinner, at noon, consists of the coarsest and most greasy viands, the scorbutic effects of which are counteracted by salted cucumbers, sour cabbage, the juice of his *vaccinium*, and his nectar *quass*. Sleep, which renders him unmindful of his abject servitude and barbarous life, he particularly indulges; sleeping always after eating, and going early to bed. The principal articles of diet are the same every where, grease and brandy."

In another place, this eminently descriptive author observes, "the Russian women are entirely excepted; and it is very remarkable, that little of the lamentable characteristics of the Russian people can be applied to them. It is only in proportion as they recede from their natural effeminacy, that any traits have appeared to assimilate them to the males of their country. Generally speaking they have this only fault, if it be not rather a misfortune, that of servility to very abject slaves."

Other authors, who have visited Russia under more favourable circumstances than the Dr., have softened some of the strong colouring of this portrait; but it should be observed, that in such an imitative state of society, a few years of greatly enlarged intercourse with the most civilized nations of Europe, joined to the moderation and benevolent exertions of their emperor, must have been productive of great improvement. Every thing, however, is in extremes in Russia, and the peasants are as much depressed below, as their lords are raised above, the situation they ought to occupy. This arbitrary dominion is no less fatally manifest in the extortion, extravagance, and debauchery it creates on the one hand, than in the poverty, wretchedness, and duplicity, it causes on the other. Some of the slaves or peasants, (for the terms are synonymous,) are allowed to pay an annual rent or *obrok*, to the owner of the estates to which they belong, for permission to follow their own inclinations in the choice of a pursuit, and to enjoy the fruit of their own labours. The portions of land they occupy are sometimes allowed to be compensated for in the same manner. The Russian peasants pass from one master to another with the estate, like any other species of property; but they cannot be sold to any person but a Russian nobleman. As these *obroks* are frequently raised according to the necessity, the avarice, or the rapacity of their superiors, the natural effect on the characters of the peasants is a sullen obstinacy, a constant and a determined spirit of concealment.

"A stranger perpetually meets with a similar sentiment of opposition in the most ordinary occurrences. If they can impose upon him, they exercise their craft as another mode of satisfying a temporary feeling of superiority. The temptation of money itself is often unable to move their stubbornness, when they know he has no right of compulsion. But let them be once possessed with the idea that he has, and no further opposition ensues. In England, pay a man, he will do whatsoever you require: in Germany it is necessary to add, that he must; and in Russia to give him a blow."

In consequence of the peasants being considered as the absolute property of the nobles, they cannot either marry or leave the village to which they belong without permission of their seigneur, and being furnished with a passport for that purpose. They are also subject to imprisonment, and even to corporal punishment at the will of their lords; and it was not till lately that there was any law for bringing the master to justice if the slave died in consequence of the punishment he had inflicted.



English Harbour



By the side of the river



The Russian peasant was totally disqualified to engage, in any business, or carry on any manufacture, or conduct any commercial concern on his *own* account, till the Emperor Alexander removed this insuperable impediment to the free exercise of genius, by an imperial *ukase*, dated 28th December, 1818, old style. By this exercise of royal wisdom, the peasants are allowed to establish manufactories and warehouses at their own pleasure, and encouragement is held out to all who avail themselves of the privilege thus offered.

The living of the common people in Russia is very coarse. It consists almost universally of a kind of coarse black bread and broth, varied with raw onions, turnips, cucumbers, garlic, and sour cabbage. These, with the addition of linseed, or fish-oil and brandy, as luxuries, complete the brief catalogue. The highest gratifications of a Russian, are indolence, drink, and sleep. In reference to the last of these inclinations Mr. *Johnston* remarks, "When not actively employed they immediately fall asleep, and the instant they are awaked, they are ready to act. Beds, they never use, the pavement of the street, the floor of the stable, or between the wheels of a carriage, are all alike to them. If a postillion has occasion to wait for travellers, during any part of the night, he quits his horses, and lies down on the bare stones under the carriage, with his hat placed under his head as a pillow, and thus sleeps like a dog. All hours are alike to him; the rising of the sun neither awakens his indifferent soul to animation nor to delight, nor its setting, the softened melancholy of a departed day. The varying seasons of the year equally pass on, unnoticed, beyond the effects of its temperature. When it is hot he basks in the sun, almost destitute of clothes: in winter he enjoys the warmth of his sheep-skins, and the tide of his existence passes on as that of a living machine."

One uniform costume is seen in all parts of Russia, only differing in quality according as it is worn in the country or the capital. The one is a sheep-skin tunic, fastened round the waist, with a girdle; the other is of cloth, plaited behind like a petticoat. The hair is cut in one shape, and the lower part of the face is hid by a "goatish beard." The females retain all the display of Asiatic finery and gaudy robes. In their countenances, they are inanimate statues, *highly* besmeared with paint, and their figures are strangely mis-shapen, by a bandage tied across their bosoms. The dress of the male peasant in winter is universally a jacket made of a sheep-skin, with the wool inwards, a square crowned red cap, edged with black wool. "These, with the long black beard, sandals made of bark, and legs thickly bandaged in woollen, complete the dress." The females wear a *Saraphan*, or vest, without sleeves, fitting close about the neck, and down to the hips, and reaching to the feet. A row of close-set buttons usually adorns the front, and it is girt round the waist with a sash, to which the keys in common use are generally suspended. In some parts the females wear their hair bound up with a riband, or band, which crosses the forehead; and which is often decorated with pearls and beads, of various colours; but in others, they wear caps made in the form of an upright crescent. In the vicinity of Moscow, and in some of the adjacent parts of the country, the cap has a front resembling that worn by the English jockeys, and this is frequently studded with pearls and glittering stones.

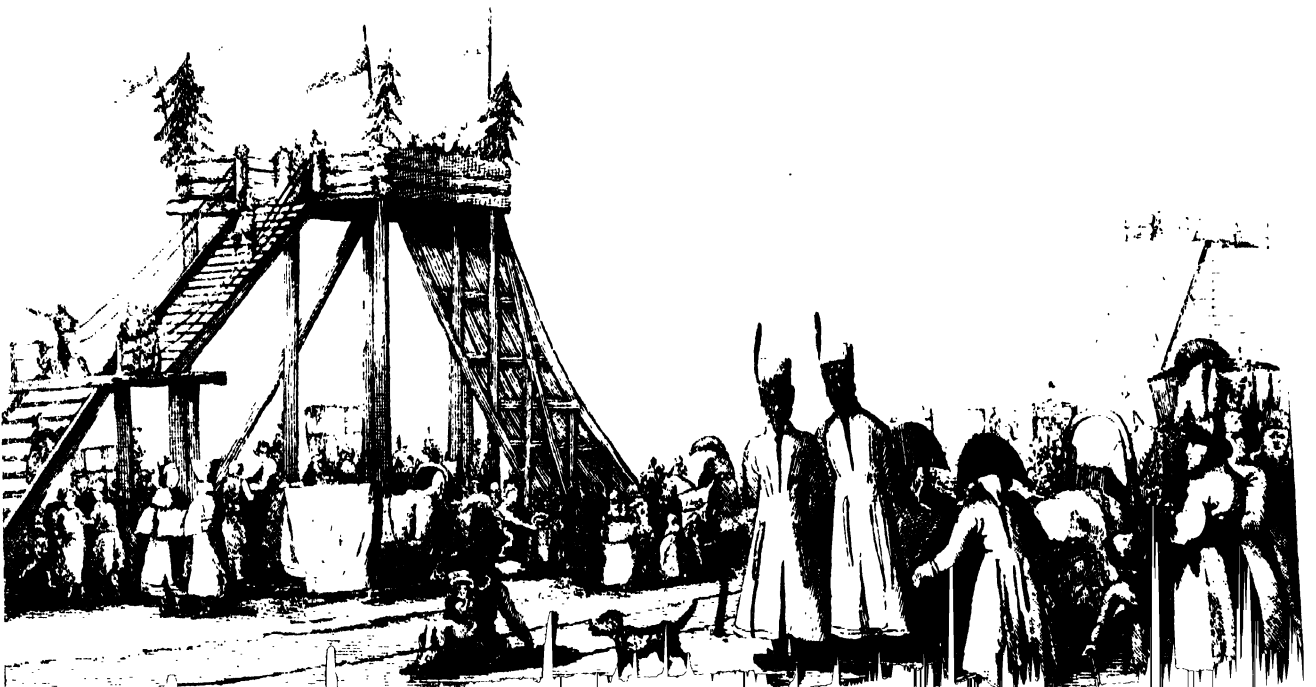
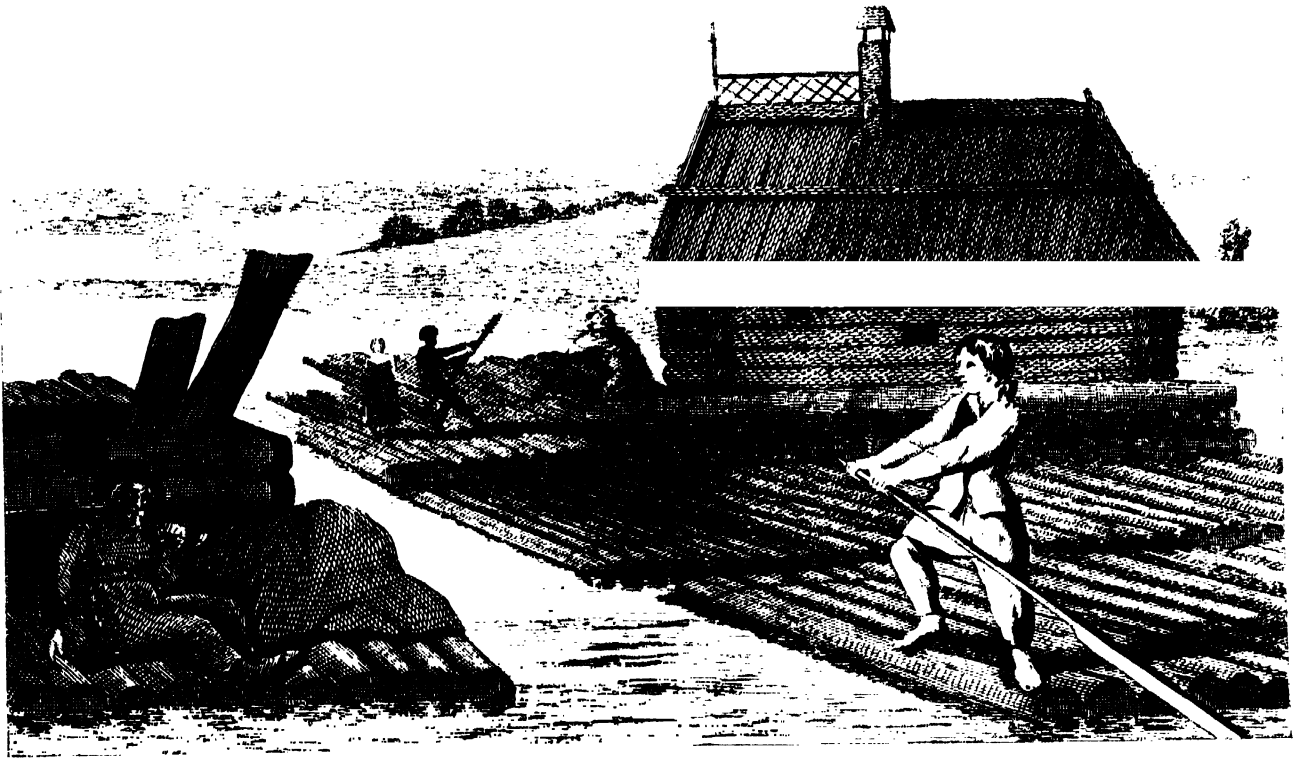
The houses of the Russian peasants are all built of rough logs of wood, and in villages these are uniformly placed with their ends to the street, or rather thoroughfare, for it is usually unworthy of the name of a street. The interior of these huts is in the most unfinished style. The log walls are not lined with planks, but the interstices are stopped with moss, which hangs in shreds within. The whole family sleep in the same room, reclining on mats, straw, or sheep-skins, and in the clothes they wear during the day. The favourite place for the night is on the edge of the stove which is raised above the floor with a few bricks, and serves for a pillow.

When an infant is one of the party, it is packed with a few old clothes in a small square frame, covered with canvas, and suspended from a nail, driven into the ceiling or wall, with a horn filled with milk, closed at the top, suspended over its head, so as to allow it to suck the small end at pleasure.

One of the peculiar Customs of Russia, which not only contributes to health but cleanliness, is the frequent use of the warm bath. For this purpose the meanest hamlets are provided with a proper apartment, and which is generally used once or twice a week by *all* its inhabitants. The heat they sustain on these occasions would be almost insupportable to any other people. It is usually from 100 to 130 degrees of Fahrenheit's thermometer; and the vapour is renewed every five minutes, by water thrown on the hot stones of the chamber of the oven. Such is the effect of habit on the constitution of the Russians, that they frequently sally forth from these steam caldrons, and plunge immediately into cold water, or roll in the snow, without inconvenience or injury. So little does the idea of delicacy enter into the mind of a Russian, that the members of the same family, male and female, old and young, or even of the same village, all assemble in the bath together, without distinction, and apparently without the least sense of indecorum. This is not only the case with respect to their baths, but they issue from these into an adjacent river or pool in the very same manner. Nor does the presence of strangers give them any concern, for they frequently bathe in this promiscuous manner close to the highways, with the greatest indifference to those who are passing at the time, though in a state of complete nudity.

The mode of travelling in Russia is peculiar, and performed with the greatest ease and expedition in winter, when the ground is covered with snow; for then the sledges are drawn by swift horses with the utmost rapidity. Sometimes a body, like that of a coach, is placed on the sledge, which unites the advantage of repose, with the convenience of rapid motion. In this manner, 80 or 100 miles a day are travelled. And hence the Russian prefers that season of the year for all his long journies.—In summer, travelling is rendered both more tedious and fatiguing by the badness of the roads, which are generally composed of rough logs of wood, laid transversely on beams placed in the direction of the road. These present an uneven surface to the wheels of the carriage, and occasion a perpetual jolting. In other places, however, where the road is over the green turf, travelling is smooth and rapid. As few circumstances exhibit a country in a more perspicuous point of view than the usual manner of travelling, we shall subjoin the following lively sketch which Mr. *James* has given on this subject. Describing the passage over one of the large rivers, he observes, "Nothing could be more strikingly wild than our passage over the Ypoote; a raft of trees loosely pinned together was provided; a rope, made from the bark of trees served for its draught; on either bank of the river rose a vast forest, not thick and luxurious, but bared in many a line by the progress of age and decay; amidst its shades were seen the white shirts, and black fur caps of the Tartars, as they scampered along in the wantonness of sport, with their horses at full speed; their caravan, just arrived, was ranged on the river side, and the oxen were seen every now and then, as the raft put off, plunging into the stream, and swimming to the opposite shore."

With respect to the general mode of pursuing the same route, this writer says, "Our days passed here under much the same circumstances: the morning breaks, and we waken as the carriage stops at the end of the stage; the mosquitoes begin to allow us some respite from their torment—the peasants bawl out their uncouth airs as they drive a-field—the Jew puts on his phylactery, and mutters his orisons—the caravan driver is heard bustling among his horses—and after a refreshing sleep, in which the turmoils of the foregoing day were forgotten, we look forward to a more



comfortable journey ;—but soon vexations begin anew—no horses are to be had, and breakfast is denied ; after much trouble we drive another stage, but still the same complaints accompany us ; we at last contract with some old woman of the village for a few eggs, and a little coffee ; thence proceeding to a third station, we find a Jew's house situated in a large town ;—it is early in the day, but the opportunity is not to be lost, and we order dinner, a comfortable meal in the German fashion ;—while again waiting for horses, we amuse ourselves in sketching some of the objects around, the police officer interferes, we are taken to the governor, are acquitted, and conclude by drinking tea with his family ; we set out a fourth time, and make one more stage, again no horses—the post-house a lone habitation in the woods ; we are constrained to wait, and pass the night sleeping on the road, or in the carriage ; and so on with little variety or relief.”

The marriage ceremonies among the lower orders of the Russians are sufficiently singular to deserve notice. When a man wishes to enter into the conjugal state, and has fixed upon a young woman whom he considers as a suitable companion in the journey of life, he proceeds to the house where she resides, accompanied by a friend. Addressing himself to her mother, or her nearest female relative, he says, “ Bring forth your merchandize, we have got money to exchange for it.” The young woman is then introduced, and if, on a private examination, she is found to be free from personal defects, and declared to be of a good disposition, she is acknowledged by the lover to be worthy of his affections, and preparations are immediately made for celebrating the nuptial rite. On the day of the wedding, the bride is crowned with a wreath of wormwood, and when the priest has concluded the ceremony, the clerk throws a handful of hops on her head, wishing she may prove as fruitful as that plant. An entertainment succeeds, at which a reputed magician attends to repel the attempts of all other dealers in the dark art to the prejudice of the new married couple ; and the nuptial feast generally ends in a scene of noisy tumult and excessive intoxication.

The funeral ceremonies, especially in the distant provinces, embrace some peculiar customs. When the body of the deceased is dressed, a priest is hired to pray for the soul, to purify the body with incense, and occasionally to sprinkle it with holy water previously to its interment. On approaching the grave, the priest produces a ticket, signed by the bishop and another clergyman, and which is considered as the passport of the deceased to heaven. This is placed between the fingers of the corpse, the coffin is then lowered into the grave, and the company return to the house from which the funeral proceeded, to drown their sorrow in potent libations. These opportunities a Russian seldom allows to escape unimproved, and the practice is occasionally repeated for the space of forty days. A prayer is recited over the grave by the priest, every day for that period ; for though purgatory is not a doctrine of the Russian church, they suppose that these prayers may assist their departed friend in his long journey to the place of his final destination. An annual feast is likewise held for the dead, at the commencement of the new year, at which every one attends the grave of his relatives, and places some victuals on it, and hears mass, which is performed by the priest, who has the victuals as a reward for his trouble.

A race of people, very distinct from the common Russ, inhabits the wide district on the north-west of Russia, lately wrested from Sweden. These are the **FINLANDERS**, who, like their neighbours, exhibit a scattered population and a rude state of society. A good idea of these simple people may be formed from the following extracts. Mr. *James*, speaking of the islands in the Baltic that were lately ceded by Sweden to Russia, states that “ The cottages of the islanders were rough-hewn log-houses, and they were themselves people apparently of such simple

manners and habits, as their secluded situation and scanty number might lead one to expect ; each rustic householder was provided with the tools and implements of a dozen necessary arts or professions, performing for himself, with equal address, the duties of carpenter, shoemaker, tailor, fisherman, baker, miller, &c. So little was the division of labour studied, or the appropriation of means, that we observed the corn mills almost equalled in number the houses of the villagers ; they were cheap and of simple form, acting by sails constructed of wooden planks, and their mill stones shaped like the *querne* or old Celtic machine, for grinding with the hand.

“ Luxuries, such as ochre paint for their cabins, or coats of woollen cloth, where sheep-skins would suffice, were not common. Caps of the most ordinary fur served as covering for their heads : and for their feet, the want of shoes was supplied by a mis-shapen bag of dried seal-skin : the harness of their horses consisted of nothing more than a plain collar attached to the shafts of the cart or sledge ; the horse's neck was thrust through, and he had nothing to do but proceed ; the contrivance answers all the purposes of draught, because neither here nor in Sweden is the animal trained to resist the weight of a carriage on a descent, however steep it may be.”

In his journey from Wyburg to St. Petersburg, the same traveller had a good opportunity of observing the continental Finlanders.

“ The villages we saw were of the meanest appearance and character, for whatsoever in this country is not made for display and show, is poor indeed ; and by our recollection of the different state of things we had left behind, Sweden was now as much raised as she had before been sunk on comparison. Instead of the neat-built red-ochred cottages, the road-side was disfigured by large dismal huts, with walls made of the round trunks of trees barely stripped of their bark, and resembling, externally, a casual pile of timber, rather than a human dwelling. The interstices of this frame-work were caulked with moss and clay, and though a few glazed windows were seen, their place was generally supplied by square open crannies. These structures called to mind the first rude efforts of primitive man after he left the shelter of the forest-oak, and looked as if age after age had passed over the heads of the people without their attempting any improvement in the arts of civil life. The ancient Russian Chroniclers, who speak of the founder of any place as having *cut the town* (*roubitgorod*) might easily be supposed to be describing in that phrase the builders of the present day ;—so little different is the modern process ; the felling of the timber, in fact, is the only part of the labour which a peasant thinks it behoves him to calculate upon when about to erect his habitation.”

Dr. *Clarke*, who visited that part of Finland which borders on the top of the Bothnian Gulf, describes the dress of the inhabitants of those regions in the following terms. “ The pure costume of the Finland peasants is very elegant ; we saw it here generally worn. It consists, among the men, of a jacket, with pantaloons, buskins, and a yellow sash worn as a girdle, round the loins. The sash, although generally yellow, is sometimes red, and sometimes it is variegated with flowers. The buskins are bound about the ankles with scarlet garters, ending in a black tassel. The jacket and pantaloons are of the same colour, and generally white ; but blue, black, and grey, are also used. Some of the men, but very few, appear in long white coats, bound with the same sort of sash with the *Don Cossacks*. The dress of the women resembles the costume of the females of the *Venetian* territory, and is very beautiful. They appear in a short scarlet or striped vest, made as gaudy as possible, with large and loose shift sleeves of very white linen, and white hoods or handkerchiefs upon their heads. The vests are often of silk or rich damask, embroidered with large brocade flowers.”

The LAPLANDERS of European Russia have so great a resemblance to those

who inhabit the northern parts of Sweden, and who have already been described, that it is unnecessary to add any thing more. The SAMOIDES of the European part of the empire will also be included with those of the Asiatic, to which the delineation more properly belongs. The Tartars will likewise be comprised in one general view with their Asiatic brethren; but the Cossacks have lately acted too conspicuous a part, on the theatre of European affairs, to be passed over without a more particular notice.

The Cossacks form one of the nations that constitute the vast and diversified population of the Russian empire; and they present the singular and striking anomaly of a *free* people in the midst of abject slavery. They have been acknowledged as a distinct race for more than nine centuries. Soldiers by birth and by practice, they boldly assert their claim to liberty, and are ever ready to defend it with the sword. They inhabit extensive regions on both sides of the river Don, from about the 51st degree of latitude to its junction with the sea of Azof. They also possess large districts on the eastern shores of the sea of Azof, the Black Sea, and the Caspian, and even stretch to the east as far as the confines of Siberia. These people appear to have first emigrated from the regions now denominated Circassia; and to have been frequently augmented by refugees from various other countries. According to their different emigrations and settlements, they are at present distinguished by the names of *Mulo-Russian Cossacks*, *Don Cossacks*, *Cossacks of the Black Sea*, of the *Volga*, of *Grebenskoj*, of *Orenburg*, of the *Ural Alps*, and of *Siberia*. The subsequent remarks must be chiefly confined to those within the European part of the empire, and are derived from the first volume of Dr. *Clarke's Travels*, and other authentic sources.

Nothing has contributed more to the increase of the colony of the Don Cossacks, the hive from which most of the other swarms have issued, than the freedom they enjoy. *As free as a Cossack*, is a common proverb in Russia. The ramifications of this republic, for such it is, extend into various parts of a vast despotic government, which considers it a matter of policy to guarantee their privileges. Nor do the Cossacks afford a greater contrast with the Russians in their political existence, than in their personal appearance and individual character. These people are thus contrasted by the intelligent author above referred to, and who had excellent opportunities of witnessing the two nations, both in their native abodes, and in contact with each other. In reference to the Cossacks of the Don, and the Black Sea, he observes, "The Russian regards both with aversion, and affects to consider them beneath his notice, and unworthy of his society, for no other assignable reason than ignorance or envy. The Cossack is rich, the Russian poor. The Cossack is high minded, the Russian abject. The Cossack is for the most part clean in his person, honourable, valiant, often well informed, and possesses, with his loftiness of soul, a very noble stature; the Russian is generally filthy, unprincipled, dastardly, always ignorant, and rarely distinguished by any elevation of mind or body."

Those vast steppes in the vicinity of the Don, which appear as blanks in most of our best maps, are in many places filled with inhabitants. Stanitzas, or settlements, are formed along all the rivers by which they are intersected; and Mr. *Heber* states, that the Procurator (who is a person appointed by the Russian government to superintend the execution of the laws) affirmed that the whole number of Cossacks liable to be called upon for active service amounted to 200,000. The entire male population he reckoned at half a million.

"There is something extremely martial, and even intimidating, in the first appearance of a Cossack. His dignified and majestic look; his elevated brows and dark mustachoes; his tall helmet of black wool, terminated by a crimson

sash, with its plume, and white cockade; his upright posture; the ease and elegance of his gait; give him an air of great importance. We found them in considerable numbers, at Kasankaia, lounging before their houses, and conversing in such large parties, that it seemed as if we were entering their capital. Their dresses were much richer than any we had seen in Russia, although all were uniform. Each person's habit consisted of a blue jacket, edged with gold, and lined with silk, fastened by hooks across the chest. Beneath the jacket appeared a silk waistcoat, the lower part of which was concealed by the sash. Large and long trowsers, either of the same material as the jacket, or of white dimity, kept remarkably clean, were fastened high above the waist, and covered the boots. The sabre is not worn, except on horseback, on a journey, or in war. In its place is substituted a switch, or a cane, with an ivory head: this every Cossack bears in his hand, as an appendage to his dress; being at all times prepared to mount his horse at a moment's notice. Their cap or helmet is the most beautiful part of the costume, because it is becoming to every set of features. It adds considerably to their height, and gives, with the addition of whiskers, a military air to the most insignificant figure. They wear their hair short round the head, but not thin upon the crown. It is generally dark, thick, and quite straight. The cap is covered by a very soft and shining black wool. Some of them have civil and military distinctions of habit, wearing, in time of peace, instead of the jacket, a large frock without buttons. The sash is sometimes yellow, green, or red, though generally black, and they wear large military gloves. There is no nation in the world more neat with regard to dress; and, whether young or old, it seems to become them all. A quiet life seems altogether unsuited to their disposition. They loiter about, having no employment to interest them; and, passionately fond of war, seem distressed by the indolence of peace.

"The territory of the Cossacks, which is almost entirely pasture land, is divided into stanitzas, or cantons; for many stanitzas now contain more than a single village. To each of these a certain portion of land and fishery is allotted by government, and an allowance of corn from Voronetz, and northwards, according to the returned number of Cossacks. They are free from all taxes; even from those of salt and distilleries. The distribution of the land to individuals in each stanitza is settled by the inhabitants and their Ataman. This Ataman was chosen by the people, and was both civil and military commander of the place; but he is now appointed by the crown, and greatly diminished in power; formerly, the Ataman himself marched at the head of his stanitza; now he merely sends the required contingent, which is put under officers named by the crown. The allotment of land and fishery which each Cossack possesses, may be let out by him to farm, and often is so.

"The Cossack, in consequence of his allowance, may be called upon to serve for any term not exceeding three years, in any part of the world, mounted, armed, and clothed, at his own expense, and making good any deficiencies that may occur. Food, hay, and camp equipage, are furnished by government. Those who have served three years are not liable, at least not usually called upon, to serve abroad, except on particular emergencies. They serve, however, in the cordon along the Caucasus, and in the duties of the post and police. After twenty years, they become free from all service, except the home duties of police, and assisting in the passage of corn barks over the shallows of the Don. After twenty-five years' service, they are free entirely."

Considerable commerce is carried on by the Cossacks and other inhabitants of Tcherchaskoy. Their chief articles of export are fish, iron, kaviar, and a little wine. Their merchants go to war, like the rest of their countrymen, and have their rank in the army. The greater number of both their generals and colonels are

merchants. In the capital, they live a pleasant and an agreeable life, and have often public amusements, as balls and parties of pleasure, but their theatre has been suppressed.

The dance resembles that of the Russian gipsies, and our own English horn-pipe; while in the motion of the hands it approaches those of the Tartars and Chinese.

Many of their apartments contain mahogany book-cases with glass doors, each enclosing a small library of books. The Cossacks are entitled to the utmost praise for cleanliness, both in their persons and houses. The dress of the females is singular. It differs from all the other costumes of Russia; and its magnificence is displayed in the ornaments of the cap, which resembles the mitre of a Greek bishop. The hair of the married women is tucked under the cap, which is adorned with flowers, or covered with pearls and gold. The dress of the young women is elegant; a silk tunic with trowsers fastened with a girdle of solid silver, yellow boots, and an Indian handkerchief round the head. This affords a convincing proof of the easy circumstances in which many of the Cossacks live.

“The common dress of men in Tcherchaskoy is a blue jacket, with a waistcoat and trowsers of white dimity; the latter so white and spotless, that they seem always new. We never saw a Cossack in a dirty suit of clothes. Their hands, moreover, are always clean, their hair free from vermin, their teeth white, and their skin has a healthy and cleanly appearance. Polished in their manners, instructed in their minds, hospitable, generous, disinterested, humane, and tender to the poor, good husbands, good fathers, good wives, good mothers, virtuous daughters, valiant and dutiful sons; such are the natives of Tcherchaskoy. In conversation, the Cossack is a gentleman, for he is well informed, free from prejudice, open, sincere, and honourable.”

The following account affords a lively picture of the religious ceremonies among this people. Dr. *Clarke* observes; “The morning after our arrival (at Åxay), the General, who was commander-in-chief over all the district, including the town of Tcherchaskoy, the Metropolis, came to Åxay. The day was celebrated as a festival, in honour of the recovery of one of the Emperor’s children from the small pox inoculation. He sent us an invitation to dinner; and in the forenoon we accompanied him, with all the staff officers, to a public ceremony in the church. On entering this building, we were much surprised at its internal magnificence. The screen of the altar was painted of a green colour, and adorned with gold: before it was suspended a very large chandelier, filled with tapers of green wax. The screen, like the rest of the church, was covered with pictures: some of these were tolerably well executed, and all of them curious, from their singularity, and the extraordinary figures they served to represent. Here were no seats, as in other Russian churches. The General placed himself against a wall on the right hand facing the Sacristy, standing on a step covered with a carpet, and raised about four inches from the level of the floor. We were directed to place ourselves by his right hand. The other Cossacks, whether in military uniform or national domestic habits, stood promiscuously in the body of the church. The priest, in very rich robes, with his back towards the people, was elevated upon a kind of throne, placed beneath the chandelier, and raised three steps from the platform, facing the great doors of the Sacristy: these were shut. Over them was a picture of the Virgin; and before it, suspended by a string, were two wooden angels, joined back to back, like the figures of Janus, with candles in their hands. Whenever the doors of the Sacristy were thrown open, the wooden angels were lowered before the centre of the entrance: here they whirled round and round in a most ludicrous manner.

“As the ceremony began, the priest, standing upon the throne, loosened a

girdle, bound across his breast and shoulders, whereon was an embroidered representation of the cross. This he held between his forefinger and thumb, repeating the service aloud, and touching his forehead with it, while the people sang responses, and were busied in crossing themselves. The vocal part of the ceremony was very solemn. The clear shrill notes of children placed among the choristers, rising to the dome of the church, and seeming to die away in the air, had a most pleasing effect. It is the same in all the Russian churches, and I know not any thing with which it can more justly be compared than the sounds produced by an Æolian harp. The words they use are Russian, and every where the same, "*Lord have mercy upon us !*" We did not find them altered, even among the Cossacks ; it was still *Ghospodi pomilui !*" but thrilled

‘ In notes with many a winding bout
Of linked sweetness long drawn out.’

“ At last there was an interval of silence, after this, other voices, uttering solemn airs, were heard within the Sacristy. The doors were then thrown open, and a priest, having upon his head a silver chalice, containing the sacred bread, covered with a white napkin, made his appearance. He was preceded by others, who advanced with censers, dispersing incense over the doors of the Sacristy, the pictures, the priest, the general, the officers, and the people. After some ceremonies, the bread was distributed among the congregation ; then those who came out of the Sacristy having retired, its doors were again closed, and prayers were read for all the Royal family ; their names being enumerated in a tone of voice and manner exactly like that of a corporal or serjeant at a roll-call. Passages were also read from the Psalms ; but the method of reading in all the Russian churches is beyond description. The young priests who officiate, pride themselves upon mouthing it over with all possible expedition, so as to be unintelligible, even to Russians ; striving to give to the whole lesson the appearance of a single word of numberless syllables. Some notion may be formed of their delivery, by hearing the criers in our courts of justice administer the oath to a jury.”

Such are a few of the leading features of the strange assemblage of people who inhabit the European part of the Russian Empire. Those who inhabit its Asiatic regions are equally singular and diversified ; but still less removed from the confines of their primitive barbarism.

CHAPTER VII.

Antiquities and Curiosities of Nature and Art.

SCARCELY any other European country is so destitute of ANCIENT MONUMENTS as Russia. This has arisen from the multiplicity of tribes by which it was inhabited ; their ignorance of the arts of social life ; their want of intercourse with more civilized nations ; and the almost perpetual state of warfare in which they were engaged. The Catacombs at Kiev, however, deserve to be mentioned. These seem to have originated in Pagan times, but they bear evident marks impressed upon them since the introduction of Christianity, and are now the resort of numerous pilgrims from all the southern parts of the empire. They consist of a labyrinth of walks and chambers, branches, &c. excavated in the solid rock, ascending and descending for several hundred yards. The passage is about six feet wide, covered at the top, and the floor is laid with plates of iron, about a foot square. These catacombs are supposed to have been excavated by twelve men of Constantinople, about 800 years since, whose bodies have been collected, and are all deposited in one chamber, which is the last of the series that are usually shown to strangers. Many of the shrines of the supposed saints in the early ages of the Russian church are contained in the interior, and visited by the mistaken zeal of the pilgrims.

A few remains of monasteries, and some ancient churches, comprise the principal monuments of antiquity in this empire. Tradition indeed states, that Alexander the Great passed the Don, and built a citadel on the banks of that river, some traces of which are said still to exist. The situation of those remains is at a place called *Zimlanskaia*, about 200 miles above Tcherchaskoy ; and Dr. *Clarke* mentions two Stêlæ in the possession of general Orlaf, at the time he visited Russia, which were actually removed from that place. The province of Taurida, once inhabited by the Greeks and Romans, also contains several vestiges of ancient art. Some remains of Churches and Temples, with various inscriptions, have likewise been found, chiefly in the isle of Taman. But the most ancient, as well as the most numerous monuments of antiquity, dispersed over the wide-spread plains of these regions, are the *Tumuli*, common to most parts of the habitable globe. Dr. *Clarke* speaks of those he beheld in his journey towards the southern districts of Russia, in the following terms :

“ If there exist any thing of former times, which may afford monuments of antediluvian manners, it is this mode of burial. They seem to mark the progress of population in the first ages after the dispersion ; rising wherever the posterity of Noah came. Whether under the form of a mound in Scandinavia, Russia, or North America ; a barrow in England ; a Cairn in Wales, Scotland, and Ireland ; or of those heaps which the modern Greeks and Turks call Tépe ; or lastly, in the more artificial pyramid in Egypt ; they had universally the same origin. They present the simplest and sublimest monument any generation could raise over the bodies of their progenitors ; calculated for almost endless duration, and speaking a language more impressive than the most studied epitaph upon Parian marble. When beheld in a distant evening horizon, skirted by the rays of the setting-sun, and, as it were, touching the clouds which hover over them, imagination pictures the spirits of heroes of remoter periods descending to irradiate the warrior's grave. Some of them

the island is subject. A lake in the interior, and the sea, which surrounds the coasts, supply them with plenty of fish.

Near the middle of the Gulf of Riga is the small island of RUUN, or RYNEHOLM, distinguished at sea by a forest of birch trees that occupies one of its sides. This island is entirely the property of the crown, and is inhabited by Swedish peasants, who, like those on the isle of Mohn, subsist by cultivating small patches of ground, and by fishing. They live in great harmony with each other, have little communication with the continent, and only intermarry with their own society. A light-house is maintained on this island for the safety of ships navigating the Gulf. VORMS is a small island, a few miles from Dagoe, and HOCKLAND is a vast rock about seven miles long and two broad, rising abruptly from the sea, about the middle of the Gulf of Finland. Some parts of this rock ascend to a great height above the water, which is from 12 to 36 fathoms deep, close to its base. About thirty families compose the whole of the inhabitants, who chiefly gain a subsistence by fishing and fowling. Two light-houses are also maintained on Hockland, by the Russian government, for the safety of vessels passing near its shores.

The island of ALAND, situated at the entrance of the Gulf of Bothnia, with the others between it, and the coast of Finland, are collectively styled the Archipelago of Abo, and were ceded by Sweden to Russia, by the treaty of Frederickshamm, in 1809. Aland, which is the principal island in the group, is about forty miles long, and thirty at its greatest breadth; and, being deeply indented by the sea, it seems to be composed of a number of peninsulas. It is divided into eight parishes, and contains a population of about 11,300 persons. Its surface consists chiefly of cultivated plains and forests. The islands between Aland and the coast of Finland are numerous, but many of them are mere insulated rocks. These render the navigation dangerous, and, hence, in entering the Gulf of Bothnia, the channel between Aland and the Swedish coast is preferred. The other islands on the coast of Finland, do not deserve a particular description.

There are several islands off the northern coast of Russia, both in the Arctic Ocean and the White Sea. Near the entrance of the White Sea, is the extensive and desert island of COLGUEF or KALGUEJIEV. It is about seventy miles in diameter, and inhabited only by a few scattered families of Samoiedes, as a great part of its surface is covered with rocks, moss, and marshes, but it is wholly destitute of wood, as the largest specimen of the vegetable kingdom scarcely exceeds the diminutive semblance of a bush. The island of WAYGAI is situated about ten degrees more to the east, and near the north-east shores of the continent. In climate, productions, and inhabitants, it resembles Colguef.

NOVAYA ZEMBLIA, or the *New Land*, forms the most extensive group of islands in the Arctic Ocean. This group consists of five islands, but the channels by which they are separated, are always filled up with ice. These islands stretch from the 71st to the 75th degree of north latitude, and only produce moss, with a few Arctic plants and stunted brambles. Their only animated inhabitants, are some species of quadrupeds, among which are seals, walruses, white bears, Arctic foxes, and reindeer, which are sometimes pursued by the inhabitants of the opposite coast of Archangel and Mezen. These hunters seldom remain on the island during the winter; but when, by accident, they are compelled to do so, the unhealthiness of the climate occasions great mortality among them. The sun is constantly visible for nearly three months in the summer, and is wholly below the horizon for about the same period in winter. During a part of the latter season, however, the refraction of the atmosphere causes a faint light when he is in the highest part of his course, and the aurora borealis is often extremely vivid.

As the remote and dreary island of SPITZBERGEN, with the adjacent islands.

have, in some measure, been taken possession of by the Russians, they may with propriety be described in this place. This group extends further north than any other country yet discovered, and approaches within ten degrees of the pole. Spitzbergen is encompassed by the Arctic Ocean, and though annually visited by vessels engaged in the whale-fishery, it does not ever appear to have been permanently inhabited. The main-land stretches about 300 miles, nearly in the direction of the meridian, as South Cape is in latitude $76^{\circ} 30'$, and the opposite extremity in $80^{\circ} 7'$ of latitude; and even one of the islands reaches $80^{\circ} 40'$. These also stretch from about nine degrees to nearly twenty-three degrees of east longitude. The western part of Spitzbergen was discovered by *Barentz*, *Heemskerke*, and *Zip*, in two vessels from Amsterdam, in June 1596. From the numerous peaks and sharp-pointed mountains which these navigators observed near that coast, they gave it the appropriate name of *Spitzbergen*, which signifies *sharp mountains*. It was afterwards called *Newland*, and subsequently *Greenland*, as it was supposed to be the eastern part of the country upon which that name had been bestowed by the Icelanders. This island was also re-discovered in 1607, by Henry Hudson, an English navigator; and soon afterwards became the resort of the English engaged in the northern whale-fishery. From that period to the present, its shores have been annually visited by vessels from some of the European nations engaged in the same pursuit; and though this remote and desolate region does not produce sustenance sufficient for the support of a single human being, the adjacent seas afford riches and independence to thousands.

The climate of these dreary regions is one of the most unpleasant of any that has yet been experienced. It is almost always intensely cold, and even in the warmest months of the year, when the sun constantly shines, and the air is usually clear, the mean temperature is only about 34 degrees and a half of Fahrenheit's scale; while, during this period, the thermometer is often below the freezing point. The sun shines without setting for about *four* months in the year, and which has, therefore, been called their longest day. But after he has passed the equinox, the approach of winter becomes very rapid. The sun sinks wholly below the horizon, and the temperature diminishes till the cold becomes intense. The birds of passage take their flight to milder regions, and the beasts that remain retire to their winter abodes. At this season the bear alone roams abroad. But man, as if determined to contest the sovereignty of desolation with this Arctic monster, has even dared to winter on these bleak shores. Actuated by the prospect of gain to be derived from the opportunities of hunting and fishing during the winter, several adventurers annually proceed from Archangel and other ports on the White Sea, in small vessels fitted out for the purpose, and supplied with provisions and stores of all kinds that may be requisite for their support. Fuel, and huts ready constructed, are also taken out. These vessels either winter in some of the most obscure coves along the coast, or return with the members of the small colony, and the produce of their labours, that had been left the preceding year. As soon as they arrive at the place of their destination, the huts are erected, and the sailors remain on shore during the winter. Being accustomed to so severe a climate in their own country, they are seldom prevented from going abroad, unless when buried beneath the snow, which sometimes happens. In such cases they are obliged to make their way through the chimney to get out.

The object of these adventurers is to kill whales, seals, sea-horses, bears, reindeer, and Arctic foxes. Instead of receiving wages from their employers, they are supplied with provisions and other stores, and are entitled to a certain portion of the produce of their labours, when they return. Some of them are even hardy enough to prolong their stay for two or three years; but in that case they often fall

victims to the fatal effects of the scurvy, which is the great bane of those regions. Though the sun remains below the horizon for about four months in the year, it is seldom very dark during that season; for the brightness of the moon, which sometimes shines for nearly fourteen days together, the resplendent brilliancy of the stars, and the reflection of the aurora borealis, which often resembles a blaze of fire, afford sufficient light to read by.

The surface of Spitzbergen presents a scene of rugged nakedness and desolation, which is, perhaps, unparalleled in any other region. Buried beneath almost perpetual snow, its vegetable productions are nearly all of the incumbent classes. A few mosses, lichens, and other Arctic plants, make up the scanty catalogue. The only semblance of a shrub, is the dwarf willow, which, in comparison, towers above all the other tribes, though seldom rising to more than two inches in height. The scenery of Spitzbergen is strikingly sublime and awfully grand; but it is a brilliancy of desolation, which rather astonishes than pleases—a chaotic confusion that chills while it delights, and rather overwhelms than elevates the mind. Mr. *Scoresby*, who has lately published a very interesting and valuable work on these regions, to which he had previously made seventeen voyages, thus describes the general appearance of Spitzbergen.

“The principal objects which strike the eye are innumerable mountainous peaks, ridges, precipices, or needles, rising immediately out of the sea, to an elevation of 3000 or 4000 feet, the colour of which, at a moderate distance, appears to be blackish shades of brown, green, grey, and purple, snow or ice, in striæ or patches, occupying the various clefts and hollows in the sides of the hills, capping some of the mountain summits, and filling with extended beds the most considerable valleys; and ice of the glacier form, occurring at intervals, all along the coast, in particular situations, as already described, in prodigious accumulations. The glistening, or vitreous appearance of the iceberg precipices; the purity, whiteness, and beauty of the sloping expanse, formed by their snowy surfaces; the gloomy shade presented by the adjoining or intermixed mountains and rocks, perpetually covered with a mourning veil of black lichens, with the sudden transition into a robe of purest white, where patches or beds of snow occur, presents a variety and extent of contrast altogether peculiar; which, when enlightened by the occasional ethereal brilliancy of the polar sky, and harmonized in its serenity, with the calmness of the ocean, constitute a picture both novel and magnificent. There is, indeed, a kind of majesty, not to be conveyed in words, in these extraordinary accumulations of snow and ice in the valleys, and in the rocks above rocks, and peaks above peaks, in the mountain groups, seen rising above the ordinary elevation of the clouds, and terminating occasionally in crests of everlasting snow, especially when you approach the shore under the impenetrable density of a summer fog; in which the fog sometimes disperses like the drawing of a curtain, when the strong contrast of light and shade, heightened by a cloudless atmosphere, and powerful sun, burst on the senses in a brilliant exhibition, resembling the productions of magic.”—The highest summit that was determined by Captain Phipps, was 4500 feet, and Captain Scoresby ascertained the elevation of one of these peaks, in 1815, that rose to the height of 4395 feet above the level of the sea.

One of the remarkable circumstances attendant on these regions is the deception they present in reference to the distance of objects. When a person most accustomed to judge of distances in other places, approaches Spitzbergen, his experience seems to vanish, and his estimate of the distance seldom exceeds a small portion of the reality. In clear weather, the high land of this island is well defined, and every thing appears distinct at the distance of forty miles. When twenty miles from the shore, it is no uncommon circumstance for seamen to conceive themselves

within a league of the land ; and Mr. *Scoresby* says he has known experienced mariners who have “ imagined they could not stand an hour towards the land without running aground ; and yet the ship has sailed three or four hours directly in shore, and still been remote from danger. If, after coming in sight of Spitzbergen, in clear weather, and sailing for four or five hours directly towards the shore, the atmosphere becomes a little hazy, or even dark and cloudy, the vessel may appear to be further distant than when the land was first seen.” This Mr. *Scoresby* thinks satisfactorily accounts for the conduct of the Danish Captain, *Hogens Heinson*, who was a renowned seaman of that time, and was sent in search of the lost colony in Greenland. After surmounting many difficulties, he perceived the coast of Greenland, and with a clear sea, a favourable wind, and a fresh gale, he sailed for several hours towards it ; but not appearing to be any nearer the land, he became alarmed, tacked about, and returned to Denmark, saying that his ship had been stopped in her course by “ some load-stone rocks hidden in the sea.”

In the description of one of his excursions on shore, Mr. *Scoresby* thus delineates the appearance of that part of the country, as seen from the summit of one of the mountains. “ The prospect was most extensive and grand. A fine sheltered bay was seen on the east of us, an arm of the same on the north-east, and the sea, whose glassy surface was unruffled by a breeze, formed an immense expanse on the west ; the icebergs, rearing their proud crests almost to the tops of the mountains, between which they were lodged, and defying the power of the solar beams, were scattered in various directions about the sea coast and in the adjoining bays. Beds of snow and ice filling extensive hollows, and giving an enamelled coat to adjoining valleys, one of which, commencing at the foot of the mountain where we stood, extended in a continued line towards the north as far as the eye could reach ; mountain rising above mountain, until by distance they dwindled into insignificance ; the whole contrasted by a cloudless canopy of deepest azure, and enlightened by the rays of a blazing sun, and the effect aided by a feeling of danger seated as we were on the pinnacle of a rock, almost surrounded by tremendous precipices ; all united to constitute a picture singularly sublime. Here we seemed elevated into the very heavens, and though in an hazardous situation, I was sensible only of pleasing emotions, heightened by the persuasion that from experience in these kind of adventures, I was superior to the dangers with which I was surrounded. The effect of the elevation, and the brightness of the picture, were such, that the sea, which was at least a league from us, appeared within reach of a musket-shot ; mountains a dozen miles off, seemed scarcely a league from us, and our vessel, which we knew was at the distance of a league from the shore, appeared in danger of rocks.”

The atmosphere of Spitzbergen, and of the polar countries in general, has a remarkable antiseptical effect. Animal and vegetable substances, exposed to the influence of the air, remain for a long period unchanged. *Martens*, in the account of his voyage to Spitzbergen, says, “ That a man buried ten years before, still retained his perfect shape and dress.” M. *Bleau* also remarks, in his *Atlas Historique*, that the bodies of the seven Dutchmen, who perished in Spitzbergen, in 1635, were found twenty years afterwards, without having suffered the least putrefaction. Wood and other vegetable substances are preserved in a similar manner. Mr. *Scoresby* says, that when he attempted to explore the shores of Spitzbergen, in 1818, he saw several huts, and some coffins made entirely of wood. “ One of the latter,” he says, “ appeared, by an adjoining inscription, to contain the body of a native of Britain, who had died in the year 1788 ; and though the coffin had lain completely exposed, except when covered with snow, during a period of thirty years, the wood of which it was composed not only was undecayed, but appeared quite fresh and new. It was painted red ; and the colour even seemed to be but little faded.

Things of a similar kind have been met with in Spitzbergen, which have resisted all injury from the weather, during the lapse of a century."

One of the most interesting appearances on these coasts is the *Iceberg*; but as this is also one of the most striking phenomena of the Arctic regions, we must refer, both for its formation and more particular description, to the chapter on PHYSICAL GEOGRAPHY, in the INTRODUCTION. On the coast of Spitzbergen, the Icebergs frequently extend several miles in length, and rise perpendicularly above the sea to the height of 400 or 500 feet, exhibiting various shades, from an emerald green to an appearance of cliffs of white marble.

The other islands in the adjacent seas are *Moffen Island*, situated in latitude $80^{\circ} 1'$ and longitude $12^{\circ} 43'$ east. It is a small island, and of comparatively low land. *Low Island* is nearly in the same latitude, but about 5° more to the east. *Hope Island*, on the south-east coast of Spitzbergen, is in latitude $76^{\circ} 20'$, and longitude 20° east. *Cherie Island* is in the same longitude, but is situated about two degrees further south than Hope Island.—*Jan Mayen Island* is in latitude 71° and longitude about 8° west. It is ten leagues in length, but not more than three leagues broad; and derives its name from the Dutch Captain by whom it was discovered, in the early part of the 17th century. The highest point of this island is the peak of Beerenberg, which rears its icy summit far above the clouds. The height, Mr. Scoresby determined in 1817, to be 6870 feet.

Besides the islands already described, the Russians possess various others on the east of Asia, situated between the coasts of Asia and America, and some near the shores of the latter continent; but as they belong to the Asiatic part of the empire, an account of them will necessarily be included under that head.

The principal COLONIES and SETTLEMENTS of the Russians, are on the last mentioned islands and on the north-west coast of America; together with some on the peninsula of Kamtschatka. These Settlements have arisen from the hunting and trading expeditions undertaken by the Russians, since the middle of the 18th century, the chief object of which is the fur trade. With the view of promoting this trade, various forts, or rather factories, have been established on the shores of both continents and the intermediate islands. The factories are on the isles of Kadyak, Onalashka, and Kurilo Rossi. On the coast of Kamtschatka, the chief are at the harbour of St. Peter and St. Paul, at Bolscherezk, Nishney-Kamtschatka, and Tigilsk; with one at Ochotzk, on the western coast of the sea of the same name.

Their settlements on the shores of America, occupy various parts between latitude 55° and $67^{\circ} 50'$ north. On Cook's Inlet they have settled at four different places: on Prince William's Sound, and the adjacent islands, they have likewise established factories, at one of which they have a good harbour and a dock. The most southern of their settlements along this coast, is at the inlet called by the English Norfolk Sound. The whole number of Russian residents in the north-west coast of America are supposed to be about 1000.

CHAPTER IX.

Statistical and Synoptical Tables.

TABLE I.

General List of the EXPORTS from St. PETERSBURGH, according to the Entries made at the Custom House, in 1816 and 1817.

Articles.	1816.	1817.	Articles.	1816.	1817.
Aniseed Poods.	1,762	10,731	Linen, broad Arsheen.	27,951	495,817
— Oil —	53	8	—, narrow —	22,394	219,221
Bristles, first sort —	33,543	29,305	Drillings —	161,256	136,397
—, second do. —	2,359	11,150	Kindak —	—	127,200
Camels' hair —	—	100	Tickens —	2,650	5,061
Canefoly —	—	150	Crash —	251,536	422,504
Cantharides —	363	356	Mats Pieces.	7,620	5,510
Castoreum lbs.	20	2	Molasses Poods.	2,566	263
Caviar Poods.	1,370	1,757	Nails —	—	216
Copper —	19,274	5,315	Oil, hempseed —	332,992	466,419
Cordage —	69,732	31,990	—, linseed —	907	856
Currants —	—	97	—, train —	2,582	1,510
Feathers —	5,444	5,178	Ox tongues —	516	541
—, wool or down —	52	6	— horns —	191	567
Fennel seed —	358	49	— bones Pieces.	75,100	559,400
Flax, 12 head —	254,970	378,661	Paper Reams.	—	458
—, 9 head —	33,512	26,506	Pepper, Spanish —	38	15
—, 6 head —	417	1,165	Pitch Poods.	25	1,952
—, Codilla —	12,961	50,471	Potashes —	365,921	406,501
—, Yarn —	—	1,112	Potter's ore —	—	325
Glass ware for Rbl.	65,384	45,191	Quils Pieces.	5,515,800	2,117,000
Hair, Cows' Poods.	—	54	Rhubarb Poods.	229	37
Hats Pieces.	7,364	5,399	Linseed Cwt.	56,261	16,676
Hemp, clean Poods.	1,167,302	1,289,023	Hempseed —	55	566
—, outshot —	143,157	117,465	Oats —	—	17,677
—, half clean —	157,923	165,254	Wheat —	4,778	203,213
—, Codilla —	18,120	7,525	Meal —	—	1,582
Hides, Red Juft —	29,760	15,240	Rye —	43,590	601,746
—, White —	4,893	5,574	— Meal —	—	500
—, Raw Ox Pieces.	6,970	2,178	Barley —	134	14,245
—, Raw Cow —	1,666	232	Groats of Buck-wheat —	1,475	454
—, Raw Calf —	13,207	14,012	— of Millet-seed... —	—	562
Honey Poods.	23	49	Skins, Hare Sacs.	—	515
Hops —	1,138	1,082	—, Calabars Pieces.	71,000	177,237
Horses' Manes —	6,551	5,936	—, ditto Sacs.	25	832
— Tails, —	2,591	3,778	—, Ermine —	1	41
Iron, in bars —	468,347	450,035	—, ditto Pieces.	716	9,284
—, in sheets —	9,786	1,595	—, Bear —	716	115
Iron, assorted —	12,170	3,086	—, Fox —	—	810
—, old —	5,475	2,965	—, Swan —	—	8,000
—, instruments, for .. Ro.	5,695	5,670	Soap Poods.	10,209	4,393
Isinglass, fine Poods.	2,794	4,447	Starch —	—	393
—, Samovy —	1,781	4,137	Tallow —	1,715,080	1,927,061
Leather, sole —	6,787	5,568	— Candles —	55,414	94,564
—, Saffiane —	32	248	Tar —	7,102	1,468
Liquorice —	675	1,055	Tea —	9	8
Sailcloth Pieces.	45,507	48,685	Tobacco, in leaves —	14,718	29,392
Ravenducks —	53,689	38,234	Wax, yellow —	747	1,265
Flems —	37,316	43,723	—, white —	104	115
Table cloth —	62	54	— Candles —	891	277
Napkins —	192	102	Wool —	5,948	1,550
—, Linen Arsheen.	105,739	157,860	Wormseed —	579	182

TABLE II.

Principal Exports from St. Petersburg, by British ships, American vessels, and ships belonging to other Nations, as extracted from Official Documents, for 1816 and 1817.

Articles.	In British Ships.		American Ships.		Other Nations.		Total.	
	1816.	1817.	1816.	1817.	1816.	1817.	1816.	1817.
Iron..... Poods.	101,630	104,382	391,021	218,017	32,631	43,096	545,302	560,495
Hemp, Clean	322,557	1,010,305	175,968	96,433	167,832	166,346	1,664,304	1,287,272
—, Outshot	57,992	89,359	20,476	1,945	69,643	62,730	148,116	154,043
—, Half clean	63,114	113,559	12,035	—	61,721	47,157	136,935	165,716
—, Codilla	938	—	—	—	19,631	—	20,609	—
Flax, 12 Head	169,146	350,641	127	21	11,925	11,736	281,209	392,398
—, 9 Head	27,414	13,135	—	—	6,119	2,668	35,695	15,005
—, Codilla	7,771	14,516	—	—	8,335	5,835	11,104	30,201
Tallow	1,144,287	1,111,621	80,732	159,550	139,062	670,256	1,704,034	1,992,107
Potashes	46,013	118,651	567	—	291,719	292,223	336,319	411,074
Bristles	14,347	33,824	151	1,715	—	4,122	16,418	39,964
Isinglass	3,618	6,992	10	—	1,116	1,161	4,774	8,155
Linseed	24,386	38,117	—	—	1,647	2,313	36,033	47,600
Wheat	3,507	150,150	—	—	76,948	74,226	2,555	104,746
Rye	—	43,123	—	—	—	531,511	—	64,727
Deals, standard	372,903	2,222,635	—	—	62,120	62,302	911,495	2,384,757

TABLE III.

Principal IMPORTS into St. PETERSBURGH, as they took place in 1816 and 1817.

Articles.	1816.	1817.	Articles.	1816.	1817.
Alum Poods.	27,756	67,159	Gold lbs.	38	626
Almonds	6,895	4,806	— In leaf... .. Books.	—	1,250
Aloes	571	397	Ginger... .. Poods.	3,439	6,271
Anchovies	445	174	Gloves... .. Dozen.	446	6,297
Annatto	2,852	3,418	Gum of various kinds ... Poods.	1,907	2,101
Autumony	589	574	Hazel Nuts Poods.	1,102	75
Apples Barrels.	4,466	4,408	Herrings Barrel	18,051	18,989
Arsenic Poods.	783	1,458	Indigo Poods.	21,071	18,927
Balsam of various kinds ...	188	303	Iron Instruments	5,640	10,383
Brimstone	7,501	1,442	Lead in pigs, sheets, and leaves	77,125	88,064
Cane Span Pieces.	3,685	5,336	Lemons and Oranges ... Boxes.	45,160	27,339
Camphire Poods.	490	364	Molasses from Revel... ..	2,557	1,955
Capers... ..	118	112	Musk lbs.	68	48
Chalk... ..	21,436	12,279	Musket Flints Pieces.	260,000	79,500
Cheese... ..	3,088	3,948	Nankin... ..	20,837	41,100
Cloves... ..	453	711	Needles... .. Thousands.	2,276	12,457
Cinnabar	16	116	Oil, Salad and Ordinary Poods.	12,445	21,849
Cinnamon & Cassia Liquea	1,369	2,790	Olives	1,597	561
Cochineal	1,688	1,086	Pepper... ..	7,957	13,820
Coffee	74,715	73,958	Pit Coal Chaldron	947	3,230
Cotton, raw... ..	4,159	13,357	Porter... .. Barrels.	1,047	2,568
Cotton Goods,—Calicoes, Cambricks, Muslins, &c. Arsheens.	1,417,345	7,182,064	Prunes... .. Poods.	16,875	23,513
Coverlets Pieces.	1,089	2,115	Pumice... ..	9,652	2,038
Stockings Dozen.	658	6,211	Quercitron Bark	22,907	7,170
Corks Bal.	385	682	Quicksilver... ..	79	2,153
Corkwood Poods.	4,864	2,277	Rattans Bundles.	10,432	975
Currants	1,126	41	Raisins Poods.	15,314	1,889
Earthenware Coll.	2,606	4,763	Rice	75,684	814
Figs Poods.	784	118	Salt	228,572	375,823

		Chetwts.		Number of
<i>Grain.</i>				
Linseed	200,000	Skins, Lamb	25,000	
Wheat	500,000	—, Weasel	1,500	
Oats	600,000	—, Parchment	4,000	
Rye	550,000	—, Wolf	18,000	
Barley	250,000	—, Pole Cat	2,000	
Malt	300,000	—, Sheep	116,000	
Peas	150,000	Squirrel tails	400,000	
Barley Grits	800,000	Sable Ditto	10,000	
Hemp seed	150,000	Fox Ditto	25,000	
Buck-wheat meal, sifted	100,000	Number of Skins	2,629,900	
Grist millet, sifted	10,000		No. of	
Chetwerts	3,640,000	Mats, first and second sort	Pieces.	
<i>Peltry and Skins.</i>		Tongues, Neats'	1,700,000	
Skins, Calf	325,000	Flints	200,000	
—, Hare	1,500,000	Toolups, or fur gowus	1,000,000	
—, Bear	20,000	TIMBER, viz. Deals	200,000	
—, Fox	22,000	—, Lathwood	3,530,000	
—, Squirrel	110,000	—, Yards	800,000	
—, Sable	13,500	—, Bowsprits	150,000	
—, Marten	1,100	—, Masts	6,000	
—, Ermine	10,000	—, Boat-masts	5,000	
—, Cat	10,500	Horns, Ox	3,000	
—, Lynx	1,300	Hoops, wood	100,000	
—, Dog	15,000	Horse tails and manes	1,000,000	
		Morocco leather	100,000	
			20,000	

Number of pieces of timber above specified, 4,134,000, besides a great number of every other description, that cannot be exactly ascertained.

TABLE V.

Latitudes and Longitudes of the principal places in EUROPEAN RUSSIA.

The Latitudes are all *North*, and the Longitudes *East* from the *first Meridian of Great Britain*, except a few places in *Jan Mayen Island*, where the Longitudes are *west*, and marked in the following Table with a W.

Names of Places.	Latitude.			Longitude.			Names of Places.	Latitude.			Longitude.		
	°	'	"	°	'	"		°	'	"	°	'	"
Abo	60	28	0	22	7	0	Novogorod—Veliki	58	31	32	31	19	39
Aland	60	18	0	20	0	0	Nystad	60	40	0	21	5	0
Archangel	64	33	36	39	5	30	Odessa	46	29	30	30	37	50
Azof	47	0	0	39	14	0	Olonetz	60	23	0	32	58	0
Bell Sound, <i>Spitzbergen</i>	77	35	0	18	42	0	Orel	52	58	0	35	50	0
Beerenberg, <i>Jan Mayen Island</i> .							Orenburg	51	46	0	52	31	10
Altitude 6570 feet	71	4	0	7	36	0W	Penza... ..	53	30	0	45	38	0
Caffa	45	6	30	35	12	45	Perm	58	1	13	56	26	30
Cape North-east, <i>Jan Mayen</i>							PETERSBURGH, St.....	59	56	23	30	18	45
Island	71	8	0	7	26	0W	Pskove	57	51	0	28	20	0
Cape South-east, ditto	70	50	0	8	45	0W	Pultowa	49	26	0	34	25	0
Catharinoslaf	48	27	20	35	1	45	Revel	59	26	29	24	45	45
Cherson	46	38	30	32	56	30	Riazan	54	40	0	39	20	0
Cronstadt	59	59	26	29	49	30	Riga	56	57	0	24	5	15
Dorpat... ..	58	22	45	25	28	9	Saratof... ..	51	38	0	46	5	0
Grodno	53	40	30	23	49	45	Sebastapol	44	25	0	35	16	30
Iceberg Mount, <i>Spitzbergen</i>	77	13	0	14	30	0	Seven Icebergs, <i>Spitzbergen</i> , S.						
Jaroslavl... ..	57	37	30	40	10	15	Cape of	79	13	0	9	46	0
Kaloga... ..	54	3	0	36	5	0	Simbirsk	54	25	0	48	26	0
Kammieck	48	49	50	27	1	30	Smolensko	54	50	0	51	55	0
Karkof... ..	49	59	43	36	26	32	South Cape, <i>Spitzbergen</i>	76	29	36	15	44	0
Kazan	55	47	51	49	21	9	Tambof... ..	51	52	0	31	40	0
Kiev	50	27	0	30	27	45	Tschengof	51	30	0	31	21	0
Kola	68	22	0	32	30	0	Tscherkaskoy	47	21	0	39	48	0
Kostroma	57	45	40	41	12	51	Tula	54	15	0	37	22	0
Kursk	51	43	30	36	27	45	Twer	56	55	0	36	6	0
Liebau	56	51	36	20	55	20	Viarka	58	25	0	49	35	0
Mazdalena Bay, <i>Spitzbergen</i>	79	35	0	9	30	0	Vishnei—Volotschok... ..	57	23	0	34	36	0
Minsk	53	43	0	27	40	0	Volodimir	56	2	0	40	22	0
Mittau	56	39	6	23	43	27	Vologda	59	10	0	40	12	0
Moscow	55	45	45	37	33	0	Wilna	54	42	0	25	20	0
							Witespk	58	8	0	30	4	0

MONIES, WEIGHTS, MEASURES, AND EXCHANGES.

MONIES.

Monies of Account.

Accounts were formerly kept in Russia, in Silver Rubles and Copecks; but, by an Imperial Ukase, they are now kept in all parts of the empire, in Rubles, at 100 Copecks bank notes, which are subject to a great fluctuation, and much inferior in value to the silver Ruble.

			s.	d.
2 Polushkas	equal to 1 Denushka,	equal to	0	0.0675
2 Denushkas	— 1 Copeck	—	0	0.135
2 Copecks	— 1 Groschen	—	0	0.27
5 Groschen	— 1 Grieven	—	0	1.35
10 Grievens	— 1 Ruble	—	0	14
50 Groschen	— 1 Ruble	—	1	11

The value of the above monies of account, as expressed in English currency, of course varies with the rate of exchange; but that which is here assigned, is about the medium.

Coins.

Gold.		£	s.	d.
Imperial	equal to 10 Rubles	equal to	1	12 1/2
Half Imperial	— 5 Rubles	—	0	16 1/4
Double Ducat	— 5 Rubles 60 Copecks	—	0	18 1/2
Single Ducat	— 2 Rubles 80 Copecks	—	0	9 3/4
Silver			s.	d.
Ruble	equal to 100 Copecks	equal to	8	3
Poltin	— 50 Copecks	—	1	7 1/2
Polpotin	— 25 Copecks	—	0	13 1/2
Double Grieven	— 20 Copecks	—	0	11
Single ditto.	— 10 Copecks	—	0	5 1/2
Piece of	— 15 Copecks	—	0	8 1/4

The Copper coins are pieces equal to 10, 5, 2, and 1 Copeck; also Denushkas, or half Copecks, and Polushkas, or quarter Copecks. Some other coins of a provincial kind, were formerly current, but have been called in.

COMMON WEIGHTS.

			lbs. Avoir.
3 Solotniks	equal to 1 Loth	equal to	70.32
32 Loths	— 1 Pound	—	902
40 Pounds	— 1 Pood	—	36.03
10 Poods	— 1 Berquet	—	569.8

The Russian Pound is equal to 6314 troy grains; or 500 Russian pounds equal to 51lbs. avoirdupoise. In the com-

mon transactions between the two countries, the pood of 40 Russian pounds is considered as equivalent to 50lb. English; and 65 poods as equal to 1 ton, or 20cwt. English.

Hemp, flax, and tallow, are sold by the Berquet or Berkowitz; but copper, iron, cordage, horse hair and tails, isinglass, kavian, leather, potash, wax, bristles, oil, tobacco, and various other articles, are sold by the pood.

MEASURES.

Corn Measure.

		Winchester Bushels
	One Garnitz	equal to 708934375
8 Garnitz	equal to 1 Chetwerick	equal to 71875
2 Chetwericks	— 1 Pajack	— 1.1375
2 Pajacks	— 1 Osmin	— 2.375
2 Osmins	— 1 Chetwert or Cool	— 5.75

A sack of flour is equal to 5 poods weight, and a cool of flour to 9 poods.

In common commercial transactions, 100 Chetwerts is considered as equal to 72 English quarters, of 8 Winchester bushels each, which is one bushel more in the 516 than is given by the above value of the Chetwert.

Wine Measure.

		Eng. Wine gallons.
	1 Tscharka	equal to 0.36932
11 Tscharka	equal to 1 Krushka	— 4625
8 Krushkas	— 1 Vedros	— 3.25
40 Vedros	— 1 Sarokowoi, or Pipe	— 130.00

The Vedro of St. Petersburg is equal to 572 English cubic inches. The Krushka is therefore equal to 24 cubic inches, or exactly 3/4 of an English ale gallon.

Long Measure.

		Eng. Feet. In.
	1 Werschock	equal to 0 1/2
16 Werschocks	equal to 1 Arsheen	— 2 4
3 Arsheens	— 1 Sasse or Fathom	— 7 0
500 Sashes or Fathoms	1 Verst	— 5,500 0

The Russian verst, or mile, is therefore equal to 1166 2/3 English yards, or nearly 3/4 of an English mile, and 10 1/2 versts are nearly equal to a degree of the equator. Diaper, linen, and cloth of all kinds, except sail-cloth, are sold by the arsheen; but sad cloth and mats by the paze. The Russian foot, Dr. Kelly states at 1 1/2 English inches, and the Moscow foot at 1 1/4 inches. Both the Rhineland and the English foot are used at St. Petersburg; the latter chiefly for timber.

Land Measure.

Land is measured in Russia by the *dessetina*, which contains 2400 square sashes, or 21,600 square arsheens. This is equal to 13,066 2/3 English square yards, or 2 acres, 2 roods, 32 perches. Hence 10 dessetina are nearly equal to 27 English acres.

EXCHANGES.

Foreign Merchants seldom draw directly upon Russia for the settlement of their commercial debts, but the sums are generally remitted by bills on other countries. Petersburg, Moscow, and Archangel, and other trading towns, frequently draw upon Hamburgh, Amsterdam, London, and Paris.—The *Old Style*, or Julian Calendar, is still retained in Russia, which is, (since 1800) 12 days later than the *New Style*, adopted by most European countries. A Russian bill, therefore, which is dated on the first of any month, must be reckoned from the thirteenth of the same month, wherever the Gregorian Style is used.—The par of exchange is subject to great fluctuation in Russia, and has been much depressed within a few years. In July 1807, St. Petersburg exchanged with London at 27 1/4 pence per Ruble, Bank notes, and the exchanges with other places were proportional. The par has since been reduced to a medium of about 13 1/2 pence; and, in January 1817, the Exchanges at St. Petersburg, were as follow: viz.

With London per Ruble 11 1/2 Pence.

Hamburgh — 9 1/2 Schill. Lubs Banco.

Amsterdam — 11 Stivers Banco
Paris — 1 fr. 17 1/2 cents.

The present (September 1820) value of the Ruble is 9 1/2 d.

P O L A N D.

CHAPTER I.

Name—Situation—Boundaries—Extent—Population—Original Inhabitants—Progressive Geography—Present Division, and Distribution of the Inhabitants.

THE NAME of this country, as well as that of Russia, was doubtless derived from the people by whom it was early inhabited. These tribes both sprung from the same Slavonic stock, and were established in their respective countries about the beginning of the 9th century. Some authors, however, suppose it to have been derived from the Slavonic word *Polie*, or *Pole*, signifying a flat and level country, or one that was fit for hunting, and certainly, none could be better adapted for such pursuits, from the plains, woods, wild-beasts, and game with which it abounded.

The contiguity of Russia and Poland, and their affinity in manners, customs, &c. afforded such ground for a coalition of interests, the intrigues of statesmen, and the aspirations of ambition, that they were almost perpetually involved in a state of hostility. The preponderance alternated between the one and the other, as the courage or cunning, the power or moderation, of the different governments prevailed; till, in consequence of a confederacy formed between Russia, Prussia, and Austria, in 1791, by the ambitious views of Catharine II., Poland ceased to be a separate state. By an act of Congress in 1815, a great part of what formerly belonged to Prussia, and composed the Grand Duchy of Warsaw, during the Confederation of the Rhine, with some parts given up by Austria, were assigned to Russia, on condition of being created into a new kingdom, under the sovereignty of Alexander. This circumstance causes Poland to require a separate description, though, since the period above mentioned, it has usually been omitted in works of this kind.

Poland is situated near the centre of the European continent, and previously to the late unparalleled dismemberment, it occupied an extensive region stretching from the shores of the Baltic nearly to those of the Black Sea. The present nominal kingdom, however, is very different from the ancient dominions of the same name, and occupies only a part of the western regions of that territory. It is encircled by Russia, Austria, and Prussia; and contains an extent of 41,000 square miles, with a population of nearly three millions of inhabitants, which is about 73 persons to each square mile.

The ORIGINAL INHABITANTS of Poland, as already observed, were derived from the same Slavonic stock as those of the adjacent parts of the Russian empire; but they have since been augmented from other sources, particularly by Jews and Germans. The Jews have long enjoyed greater privileges, and are in a more prosperous condition, in Poland, than in any other country of Europe.—Fully to develop the aggrandizements and dilapidations of territory which Poland has experienced from the first foundation of the monarchy to the present time, would be to fill up the outlines of its eventful history. A slight sketch, however, of the mutations it has undergone, will not only be interesting but necessary.

Poland was a part of the ancient European Sarmatia, and was inhabited by a branch of the Selavi. In 1138 *Boleslav III.* divided his dominions into Great Poland, Little Poland, Masovia, and Silesia. This last province at that time included Lusatia. But Masovia was unable to defend itself against the power of Prussia, and was subsequently annexed to that kingdom. About the middle of the 14th century, Casimir the Great was obliged to cede Silesia to Bohemia, but gained Red Russia; and before the close of the century, Lithuania, Wallachia, and Moldavia became integral portions of the Polish territory. The Zips Towns were also added in 1412. The Peace of Thorn, in 1466, joined West Prussia to Poland, but Great Novogorod and Servia were separated from it, and added to Russia, about twelve years afterwards. In 1514, Poland was compelled to yield Smolensko to Russia, and Moravia, Silesia, and Lusatia were also about the same time separated from this kingdom; but in 1561, Livonia offered a voluntary submission to the crown of Poland. In the early part of the 17th century, Smolensko, Czernichew, and Servia were reconquered from the Russians; but Moldavia was resigned to the Turks, in 1622, and Livonia, with part of Prussia, to the Swedes in 1629. About thirty years afterwards, Esthonia was also given up to the same power. The Russians reconquered Smolensko and some other provinces in 1667, and a few years subsequently, the Turks made incroachments on the southern borders; but these possessions were afterwards regained by *John Sobiesky*, in 1683. By the peace of Carlowitz, in 1669, Poland obtained Kaminick, Podolia, and the Ukraine. From that time the star of Poland began to decline. Internal dissensions, and external intrigues, paved the way for its first partition, which took place in 1772. Then the Zips Towns, Galicia, and Lodomeria were resigned to Austria; the territories between the Dwina, the Dnieper, and the Drustch, to Russia; and the whole of Polish Prussia was given up to that kingdom. Previously to this partition Poland contained an area of 13,400 German square miles, but of this 3,400 were resigned, which was equivalent to nearly 72,000 English square miles. By the second partition in 1793, Russia gained 4000 German square miles, and Prussia 1000, with the Hanseatic Towns of Dantzic and Thorn. The final partition took place in 1795, when Cracow fell to Austria, and Warsaw to Prussia; and then the fatal words "*Finis Polonia*" grated harshly on the Polish ear, and thrilled painfully the patriotic heart. Thus, after having held Prussia in vassalage, given a prince to the throne of Russia, and preserved the very existence of Austria, Poland was dismembered by these three powers, and ceased to exist as a separate state, till the Congress of Vienna, in 1815, restored a part of her ancient dominions to the nominal dignity of a kingdom under the sovereignty of the present emperor of Russia.

are conspicuous. The shrubs and fruit-bearing trees are similar to those in the adjacent provinces of Russia.

Horses and cattle rove over the wide plains of Poland ; some in a domesticated and others in a wild state. Much attention has been paid to the breed of the former for the supply both of the Russian and Prussian cavalry. The native breed is small and hardy, but often ill shaped, and seldom exceeding fourteen hands high. They are, however, much valued for their activity. Buffaloes abound in the forests in some parts of the country, the flesh of which is in great esteem. The domestic cattle are small and badly fed. Sheep form a part of the Polish farmer's stock ; but much less attention has been paid to their improvement than in the adjacent country of Hungary. Pigs and poultry are also numerous in Poland. Among the wild animals are the wolf, the boar, the elk, the glutton, and the lynx, which, with several species of deer, range through the forest. The flesh of the elk is esteemed a great delicacy, and generally forms a portion of the most splendid entertainments. A species of wolf, with spotted belly and legs, is found in various parts of Poland, and is much pursued for the sake of its skin, which affords a fine fur. Poland also produces the singular little animal called *bohac*. It resembles a guinea-pig, and has, by some naturalists, been classed with the beaver species. They live in small herds, burrow in the ground during winter, and seldom quit their retreats from October to April. They have separate apartments for their lodgings, provisions, and dead. The *remig*, or minute species of tit-mouse, so much noted for its curious pendent nest, is likewise found in Poland. This is shaped like a long purse, and the most wonderful instinct is displayed in its construction. The vulture and the eagle frequent the northern districts of this country, and most of the other tribes of the feathered race, common to the European continent, sport in the woods, or enliven the wilds of Poland with their songs.

Poland abounds less in MINERAL treasures than several of the more mountainous countries of Europe ; but it yields iron, lead, copper, and marble ; nor is silver altogether unknown. Among the products are rock crystal, alum, salt-petre, coal, and potter's clay. But the most noted of all the minerals is the salt yielded by the mines at Wieliczka and Bochnia, which are among the most celebrated in Europe. The salt prepared for traffic is cut into large cubical blocks, and conveyed to the places of its consumption in distant parts of the country, without any package. It is so pure that it only requires pounding to render it fit for use. The annual revenue of these mines, previously to the first partition of Poland, in 1772, was estimated at three millions and a half of Polish florins, or nearly £98,000. A more particular description of these mines will be given under the head of NATURAL CURIOSITIES. Poland is not celebrated for its MINERAL WATERS.

CHAPTER III.

Principal Cities, Towns, and Buildings—Manufactures and Commerce.

THE general plan of Polish towns is very simple, consisting of a large square, with the town-house in the centre, and surrounded by other buildings. Most of the houses, in both town and country, are built of wood, and seldom have more than the ground floor. The villages usually consist of a few wooden huts of the rudest description imaginable. In that country, a town that contains 2000 inhabitants is considered a large place, and many are dignified with the title of town, which have not one-tenth of that number.

The capital of the present kingdom is WARSAW, situated on the Vistula, which divides it into two parts. It stands partly on a plain, and partly on an adjoining eminence, gently rising from the river. This city contains some large palaces and other buildings, but many of the houses are composed of wood, and some of them are mere hovels. Others are built of brick, and stuccoed, to resemble stone. The streets are narrow and dirty. Indeed, except two tolerable streets, which are crossed at right angles by two others, and in which the houses stand together, all the other parts of the towns are divided into gardens and orchards of various sizes, from a few perches to four or five acres, and the houses are often separated from each other by large intervening spaces. These gardens are thickly planted with fruit-trees which give the town the appearance of being placed in the midst of a luxuriant forest. In this respect Warsaw is even more picturesque than Moscow. Its principal houses are the former residences of the nobles, but most of these have been abandoned by their once opulent possessors, and are converted into hotels and shops. These buildings are extremely plain, and are only distinguished by their immense size. The town contains forty churches, many of which belong to monasteries and nunneries. They are all heavy, clumsy buildings, and in general are neither ornamented with spires nor domes, as there are only five or six small spires in the whole city. The cathedral stands in the centre of the town. It is a huge pile, but wholly destitute of spire or any exterior ornament. The largest and most handsome church in Warsaw, is that of the Lutherans. It is surmounted by a dome, a gallery near the top of which affords a fine view of the city and the surrounding country. The present population of Warsaw, including the suburbs, is about 60,000. The earthen ramparts that are thrown up about the suburbs are little capable of retarding the progress of an enemy. As Warsaw, however, has now been restored to the dignity of a regal capital, and is the place where the national assemblies meet, a short interval may not only remove the dilapidations produced by time and neglect, but repair the ravages occasioned by the fury of the relentless Suvarof, when the city was taken by the Russians in 1794.

CRACOW was the ancient capital of the kingdom, and is now a free town, the same privilege extending to a small surrounding district of country. It is situated on an extensive plain, near the banks of the Vistula, about 150 miles south of Warsaw, and approaching the borders of Austrian Galicia. Like many other cities in the eastern parts of Europe, it occupies a large, but thinly-peopled space. In a distant view, its high walls, steeples, antique towers, and spacious area, give it an imposing effect, which vanishes on entering the place, where ancient ruins and empty spaces meet the eye in every direction. Yet its buildings are in general superior to those of Warsaw. In its cathedral, the Crown and Regalia

were deposited; and it also contains the tombs of several Polish kings. Cracow was founded in the 13th century, and at the era of its greatest prosperity contained about 80,000 inhabitants, but has now little more than 20,000. The privileges which have recently been conferred upon it, are favourable to its commercial interests, and will consequently augment its population. Besides the cathedral, which is a handsome structure, the university, built in a semi-gothic style, deserves the attention of the traveller. Most of the inhabitants are either Germans or Jews, one part of the town being entirely inhabited by the latter.

A particular description of many of the other towns of Poland would not only be tedious and uninteresting, but would involve that monotony which a minute delineation of inferior objects always creates. A brief notice of a few must therefore suffice. LUBLIN is the capital of the palatinate of the same name. It is one of the largest commercial towns in the south-east parts of the kingdom. It stands on the river Bistrieza, in the midst of a marshy country, and has several churches and convents, with a spacious Jewish synagogue, and a population of about 7100 people. It is also the see of a bishop, but is most noted for its three great annual fairs, each of which continues for a month, and is attended by merchants from various countries, both of Europe and Asia. Among them are Germans, Greeks, Armenians, Russians, Turks, and Arabians.

ZAMOSK is situated south-east of Lublin, and has several tanneries, with establishments for bleaching wax, and making it into candles. Its population is about 6000 individuals. KALISCH is one of the largest of the Polish towns, and is situated near the Prussian frontiers. It is encompassed by walls, and has a collegiate with two other churches, two monasteries, and two convents. The population exceeds 6000, part of whom are employed in manufactures of cloth, linen, and leather. SENDOMIR, on the Vistula, is situated in a country abounding in honey and fruits. The salmon fishing here is very productive. The Jesuits have a handsome college at Sendomir, and its population embraces about 5000 individuals.

From the previous description of this country, its MANUFACTURES are obviously few and unimportant.—One of the principal of them is coarse linen. Some unsuccessful attempts have been made to introduce the working of woollen, cotton, silk, and stuffs. Earthenware and porcelain are the most flourishing of the Polish manufactures, and though neither of them accord with our ideas of elegance, they serve all the purposes of utility. The other articles produced by Polish industry, are such as are absolutely necessary to supply the immediate wants of its population.

The COMMERCE of Poland chiefly consists in exporting the surplus produce of its soil, and importing such articles as are requisite for the subsistence of the people. Nearly the whole of the domestic trade is carried on by the Jews, and the external commerce by foreign merchants. The chief *exports* are corn, cattle, horses, hemp, flax, and tobacco, with hides, skins, tallow, bristles, honey, wax, timber, and salt. The *imports* are colonial produce and various kinds of manufactured goods; among which those of England are prominent. The trade of Poland, however, is small, as the poverty of the population is such, as renders the consumption of most articles comparatively trifling. Even the produce of the country is not half of what it is capable of yielding.

With a view of promoting its commerce, the present monarch has lately issued orders for establishing two annual fairs at Warsaw, the one in May, and the other in November. These are on the plan of the great German fairs; and every facility and encouragement are given for merchants to resort to them. They will doubtless prove beneficial to the country, not only by causing a greater circulation of money, but by reducing the price of many articles, and creating a greater intercourse between the provinces and the capital.

CHAPTER IV.

Government and Constitution—Laws and Jurisprudence—Army—Revenue—Political Importance and Relations.

THE ancient GOVERNMENT of Poland was monarchical, but the CONSTITUTION differed little from an Aristocracy. The king was merely the head of the Republic, and was elected by the nobility and clergy on the plains of Warsaw. On these occasions, the electors proceeded to the place of election on horseback, fully armed, and ready for action. If, therefore, when the suffrages of the electors were made known, the minority became turbulent and refractory, as was sometimes the case, the consequence was an immediate engagement, in which the length of the sabre and the strength of the arm decided the point. As soon as the election closed, the king signed the *Pacta Conventa* of the kingdom, by which he solemnly engaged that the crown should be elective—that his successor should be appointed during his life—that the Diets should be assembled once in every two years—that all noblemen and gentlemen in the realm should have votes in the diets of election—and that when the king broke the laws, or encroached on the privileges of the nation, his subjects should be absolved from their oaths of allegiance. In time of peace, the monarch was merely the head of the Senate, which consisted of the primate, the archbishop of Lemberg, fifteen bishops, and one hundred and thirty laymen, comprising the great officers of state, the Palatines and Castellans. The Polish Palatines were the governors of the Provinces, and held their appointments for life. The Castellans were the Lieutenants of the Palatines, and, in time of war, commanded the troops of their respective districts; but during peace the office was merely nominal. The general Diet was composed of the King, the Senators, and Deputies from the provinces and towns. It was an undeviating principle with this assembly, that before any act could become a law, all the members must be unanimous—Since the re-establishment of the kingdom, in 1815, a free constitution has been formed by the Emperor Alexander, as king of Poland, by which he has limited his own authority,—granted legislative powers—and the privilege of self-taxation to the Polish senate—and a representative body,—thus laying the basis of a Constitution equally worthy of the sovereign and the subject. It should be observed, however, that his well-known benignity of character is the only guarantee that he will not employ his autocratical power to infringe upon the privileges he has granted.

Before the late partition, Poland could scarcely be said to have enjoyed the benefit of any regular system of LAWS. Its code partook of all those characteristic qualities and defects which were common to the *feudal* systems that overspread Europe a few centuries ago; and the absolute power exercised by the nobles on their respective estates, either defeated or perverted the ends of Justice. In such a state of society, where the few were absolute tyrants, and the many as absolute slaves, it was almost impossible for *Justice* to hold the balance with that even hand which is equally necessary to support the weak, and secure the strong—to protect the poor, and guard the rich—to give freedom to genius, motive to exertion, and energy to life; and thus to bind all ranks of society in one harmonious whole. What may be the result of the *new* order of things, time must develope.—Be

it what it may, it can scarcely be worse for the great body of the Poles than the *Old Regime* was.

All that can be observed in reference to the ARMY of this lately renewed kingdom is, that nothing has yet occurred to call it into action, or to complete its regular organization and discipline, on a scale either adequate to its future wants, or commensurate with its present capabilities. The Poles have always been a warlike people, and therefore an army can easily be raised at any time when it can be paid. If, however, we assume the same proportion of its population for the peace establishment of the army as has been adopted by the German confederacy, it will amount to between 30 and 40 thousand, which must be more than adequate to its present wants, especially while under the protection of so powerful a state as Russia.

It is, perhaps, impossible to state the actual amount of the REVENUE of Poland, even with a tolerable approximation to the reality. The unsettled condition, and imperfect cultivation, of the country; the poverty of its inhabitants; the want of manufactures and industry, are all drawbacks upon the productive sources of its revenue. It cannot, therefore, be great.

As Poland, under its present circumstances, is merely a nominal kingdom, without exercising any of the political functions which characterize an independent state, it cannot be considered in any other light than as a dependency of the Russian Empire. Its POLITICAL IMPORTANCE and RELATIONS are consequently merged in those of that vast and heterogeneous empire, the morbid bulk of which it augments without imparting proportional strength. Yet, as the Poles are still a warlike people, whose heroic deeds of former days are warmly cherished in the bosom of many a youthful *Kosciuszko*, should the period arrive, when the colossal empire to which their country is attached shall be disjointed, the Poles may yet be courted as allies, if not dreaded as rivals.

CHAPTER V.

Religion and Ecclesiastical Geography—Education—Language and Literature—Arts and Sciences—Manners and Customs—Antiquities and Curiosities of Nature and Art.

THE RELIGION of Poland is the Roman Catholic, and the people of all ranks are prone to superstition. The primate is archbishop of Gnesna, and the superior clergy live in great state and luxury. Bigotry was long the prevailing characteristic in the Religion of the Poles, but the diffusion of a more tolerant spirit now allows the members of all persuasions to enjoy their respective systems of faith and modes of worship. The catholic hierarchy is nearly the same in Poland as in other countries, and consists of archbishops, bishops, regular and secular clergy. There are likewise numerous monasteries and convents, but since its subjection to foreign powers, many of these have been suppressed, and dilapidated relics of religious houses often meet the traveller's view. Several of them, however, still remain, and mendicants continue to be frequent visitors.

In what kind of pursuits some of these professed devotees to the cause of religion spend their time, and what estimate they seem to have formed of the important duties of life, may be learnt from the manner in which they were found employed when Mr. Johnston visited some of them a few years since. "One of these convents," he says, "which we visited, contained several fathers; they were habited in long loose white woollen cloaks, with black velvet caps on their heads. Few of them could speak any language but their own, and their time was taken up in grinding a small organ, in order to teach a canary bird to imitate its sounds." The Greek Church has also its bishops and other establishments in Poland.

Various causes have retarded the Progress of Education and Literature in Poland. Among them were, the importance which the nobility always attached to rank, and their consequent neglect of learning—the protracted continuance of slavery among the lower orders—and the general prevalence of superstition among all ranks. These have all had great influence in checking the general diffusion of useful knowledge. Education, therefore, as in most other catholic countries, has been greatly neglected. The sons of the nobles are either educated at home, or sent to some of the universities, where they gain a scanty portion of mental improvement; but for the great body of the people no means of instruction were provided. The magnanimity of the present king, which has been shown in freeing the peasants of Courland from their ancient vassalage, will, it is hoped, be also exercised in releasing both them and the Poles from the equally slavish bands of ignorance and error, by the general diffusion of knowledge and truth.

The Polish LANGUAGE is a dialect of the ancient Sclavonic, inharmonious and difficult of pronunciation, on account of the multiplicity of consonants it contains. The state of the country, and the neglect in which the language has been suffered to remain, have also rendered it deficient in words and phrases adapted to express many of the refinements of modern society. French is therefore usually employed by the higher classes for that purpose. A kind of imperfect Latin is also occasionally spoken.

From the want of Education, the propensities of the people, the impoverished state of the country, the thinness of the population, and the consequent difficulty

of intercourse, the progress of LITERATURE in Poland has been slow, and few authors are known beyond the precincts of their own country. Poland, however, is not entirely destitute of literary names. Among them is that of Casimir Sarbiewski, who was born in the duchy of Masovia, in 1795. His "Odes," and other Latin pieces, have rendered his name celebrated among scholars. The natives possess the faculty of acquiring foreign languages with ease and accuracy; and many of the higher classes, who have visited the more learned and polished nations of Europe, have not been inattentive to their ARTS, SCIENCES, and Literature; all of which are defective in their own country. The two Polish Universities are at Warsaw and Cracow; those of Wilna and Posen, which are both within the limits of the ancient kingdom, are still retained by Russia and Prussia.

The Poles are descendants from the ancient Sclavonic stock, and, in their general appearance, as well as in their language, MANNERS, CUSTOMS, characters, and attainments, they have a great similarity to their eastern neighbours, which the contiguity and constant intercourse of the two nations, and the almost perpetual interchange of territory between them, for so many centuries, have contributed to maintain. The Poles are in general of a middle stature, but many of the superior classes are tall and graceful, though the peasants are often low and stunted, apparently owing to their hard treatment and scanty fare. The countenance of the Poles is open and friendly. The men of all ranks wear large whiskers, and shave their heads, leaving only a single lock of hair on the crown, which gives them an Asiatic appearance. The Polish females of the higher ranks are celebrated for their beauty and graceful demeanour. Their figures are generally elegant, complexions fair, and hair fine. In the common intercourse of society, they are lively and animated. Mr. *Coxe* describes the dress of the higher classes, both men and women, as elegant. That of the gentlemen, he says, is a waistcoat with sleeves, with an upper robe of a different colour, which reaches below the knee, and is fastened round the waist with a sash or girdle; the sleeves in warm weather are tied behind the shoulders. In summer the robe is of silk; in winter of cloth, velvet, or stuff, edged with fur, and a sabre is a necessary appendage of the dress, as a mark of nobility. The gentlemen wear caps or bonnets of fur, and buskins of yellow leather, the heels of which are plated with iron or steel. The dress of the ladies is a simple *Polonaise*, or long robe edged with fur. This winter robe or pelisse is lined, or rather padded, with wool, but is only used when they go into the open air. In other respects, their dress differs little from that of the English or French ladies. Most of the young men in Poland have laid aside the national costume, and adopted the English dress. The summer dress of the peasants consists of a shirt and drawers of coarse linen, without shoes or stockings, and of round caps or hats. The women of the lower class wear upon their heads a wrapper of white linen, under which their hair is braided, and hangs down in two plaits.

Mr. *Burnett* observes, in reference to the female peasants, "Their dress on Sundays is tawdry beyond description, consisting of a great variety of different colours, as in patchwork, of which, however, red is the predominant one. When thus accoutred, they look as if made up for mere scarecrows. In summer the women, generally speaking, have nothing but a mere under dress, and a single petticoat, which scarcely extends below the knees; and are commonly without shoes or stockings." Elegance of form and comeliness of person, are strangers to the female peasants of Poland; of whom the same Traveller asserts, that scarcely any thing in the shape of a woman can be more "*unlovely*." He even avers that he never saw a peasant girl that had "the slightest approach to beauty."

Polish society comprises only two classes; the nobles, and the peasants or slaves, for these two words are synonymous. Many of the Polish nobles possess vast

estates, and their mansions, which are denominated palaces, are situated at great distances from each other; so that those which do not exceed 50 English miles are reckoned *near*. The higher classes of the Poles live in all the pomp of feudal splendour, surrounded by multitudes of retainers and dependents, and are frequently encompassed by numerous visitors. The greatest hospitality, and the most courteous demeanour, are manifested to all the guests; and several of the superior dependants, even, are admitted to the tables of their lords, which are often bountifully spread for the accommodation of more than a hundred persons. The ladies also mix freely in these societies. The higher classes visit from one family to another for the greater part of the year; and this has a great tendency to promote that licentious intercourse between the sexes which is almost universal in Poland.—“Chastity, even in married women, is considered as ridiculous, and an unlimited latitude is admitted on both sides.” The superior orders of the Poles are, therefore, polite, hospitable, generous, condescending, and gay; but often tyrannical and licentious. The Polish amusements are most of them of the manly and warlike kind. Dancing, hunting, riding, leaping, bear and bull-baiting, are some of the principal.

The Peasants constitute more than a usual proportion of the population; and it is scarcely possible to conceive a more wretched set of beings. This degradation is the natural result of slavery. Of these *helots* of modern Europe, Mr. *Burnett*, who resided in Poland a few years ago, has drawn a picture which can hardly be contemplated without causing the original to pass in review before the reader.

“Their diet is very scanty; they have rarely any animal food. Even at the inns, in the interior of Poland, which are not situated in a pretty good town, scarcely any thing is to be procured. Their best things are their poor milk and cheese, were they in sufficient abundance; but the principal article of their diet is their coarse rye-bread.

“The political condition of the peasants is still more degrading to human nature than their manner of living.

“When a young peasant marries, his lord assigns him a certain quantity of land, sufficient for the maintenance of himself and family in the poor manner in which they are accustomed to live. Should the family be numerous, some little addition is made to the grant. At the same time the young couple obtain also a few cattle, as a cow or two, with steers to plough their land. These are fed in the stubble, or in the open places of the woods, as the season admits. The master also provides them with a cottage, with implements of husbandry, in short, with all their little moveable property. In consideration of these grants, the peasant is obliged to make a return to the land-holder of one half of his labour; that is, he works three days in the week for his lord, and three for himself. If any of his cattle die they are replaced by the master, a circumstance which renders him negligent of his little herd, as the death or loss of some of them is a frequent occurrence.

“When a farmer rents a farm, the villages situated on it, with their inhabitants, are considered as included in the contract; and the farmer derives a right to the same proportion of the labour of the peasants for the cultivation of that farm, as by the condition of their tenure they are bound to yield the lord.

“If an estate be sold, the peasants are likewise transferred of course with the soil, to a new master, subject to the same conditions as before. The Polish boors, therefore, are still slaves, and relatively to their political existence, absolutely subject to the will of their lords, as in all the barbarism of the feudal times. They are not privileged to quit the soil, except in a few instances of complete enfranchisement.

“It is said that a few of the peasants improve the little stock which is committed to their management, accumulating some small property; but their conduct is far

more frequently marked by carelessness and a want of forecast. Those degraded and wretched beings, instead of hoarding the small surplus of their absolute necessities, are almost universally accustomed to expend it in that abominable spirit, which they call *schnaps*. It is incredible what quantities of this pernicious liquor (a kind of whiskey) is drunk, both by the peasant men and women. I have been told, that a woman will frequently drink a pint and even more at a sitting, and that too in no great length of time."

The same author observes, "A few of the boors are found about every large mansion. They are employed by the domestics in the most dirty menial offices. These never have any beds (however mean) provided them; so that in the summer nights, they sleep like dogs, in any hole or corner they can find, always without undressing. But the winter's cold drives them into the hall, where they commonly crouch close to the stoves which are stationed there. Here, too, several of the domestics spread their pallets, and take up their night's abode. Frequently, as I have retired to my room after supper, I have stumbled over a boor sleeping at the foot of the stairs—a curious and a melancholy spectacle! too see these poor creatures, in all their unmitigated wretchedness, lodging in the halls of palaces.

"In giving orders or directions of any sort to these torpid beings, though the sentiment of the speaker be not disgraced by the slightest admixture of unkind feeling, it is customary to address them in a certain smart and striking manner: as if to stimulate their stupid senses into sufficient action to prompt the performance of the ordinary offices. There is no circumstance more deplorable in slavery than the dead-palsy of the faculties, which bereaves its possessor even of the common comfort of hope; or capacitates him only to hope that he may live without torment, and mope out his existence in joyless apathy. If to a contiguous person you give utterance to any compassionate remark, you are commonly answered with the most indifferent air imaginable. 'It is very true; but they are used to it.'

Between these two classes are the farmers and those who manage the business of the land-owners, with the Jews who usually keep the Inns, and transact nearly all the commercial affairs of the nation. The large estates are generally let in farms, except a part which is cultivated for the proprietor's own use. A Polish farm frequently contains several thousand acres, including open and forest land. Its value is not estimated by its extent, but by the number of villages it comprises; for the population of most of the estates bears so small a proportion to their size, that the first inquiry of a person about to take a farm is, "how is it peopled?" It is by this alone he is to judge of his power of cultivating it. As these farmers have free access to the tables of their lords, they sometimes acquire a polish superior to what is usually found among the same class of society in other countries. The following statement, by the author above quoted, relative to the estates of the Polish Grandees, gives a clear idea of their extent, and of the value of land in that country. "The territory of a nobleman, the extent of which I had an opportunity of ascertaining with some exactness, is about 5000 square miles; which produces an income of about 100,000 ducats, or £50,000 sterling:" this gives £10 per square mile, or less than 4d. per acre!

Jews form a conspicuous part of the Polish population; and the privileges they have enjoyed in that country have raised them above the condition they exhibit in any other European State. Dr. Neale observes "The enjoyment of liberty and civil rights seems to have produced a strong effect on the physical condition and physiognomy of this singular race; bestowing a dignity and energy of character on them, which we must not even look for in other countries." Mr. James likewise says that he has often been forcibly struck with the remarkable resemblance between several of these Jews and the pictures by which Italian artists have

represented the Saviour of mankind. The Jews are the principal distillers of the spirituous liquors which are used in such copious libations by the Polish peasants. The Inns are in general of the most wretched description, and consist only of a large room, which serves for stable, parlour, kitchen, and bed-room. The houses of the Jews are generally superior to those of the peasants, but are still far from being commodious or comfortable. The huts of the latter are made of logs and covered with a little straw, and form but a very imperfect shelter from the inclemency of the weather.

Scarcely any thing shows the state of a country in a more striking light than the mode of travelling which is adopted; and in this respect, the following remarks are in perfect unison with the statements already given.

“The carriage of the traveller in Poland, which is often made of wicker work, and resembles a large cradle placed on four wheels, must be furnished with a mattrass, blankets, &c. as well as with provisions for the way, as nothing in general is to be obtained at the Inns. When arrived at these, the best room they afford is commonly the stable; and which is usually preferred, during summer, for the sleeping room; and as these always allow the carriages to be driven in, the bedding is either spread in these or on pallets of straw on the floor, in the interval between the two rows of horses which are ranged on each side, with their heads towards the wall. When it is found practicable to sleep in the house, or when this is preferred during winter, the travellers and the people of the house, men and women, spread their pallets promiscuously on the earthen floor of the common room or kitchen; and on these occasions the women dress and undress in the midst of the company with the most perfect unconcern. This is certainly a striking instance of the effect of habit.”

Few ANTIQUITIES are to be met with in Poland, for the buildings of the early inhabitants were of too perishable a nature to withstand the ceaseless operations of time. Those which have been erected since the introduction of christianity are chiefly of the religious kind; but from the deficiency of the more durable materials, the primitive structures of this sort do not present any thing remarkable, either in their aspect or construction.

Poland is almost equally deficient in NATURAL CURIOSITIES. The most noted of these is a spring near Cracow, which is said to increase and decrease with the phases of the moon. To this spring the Poles ascribe the wonderful property of increasing the duration of life; and assert that inhabitants in its neighbourhood attain an extreme old age. The water, or rather the vapour near the surface, is inflammable. On the application of a lighted torch it takes fire, and flames like the burning of spirits of wine; but the flame merely plays on the surface without heating the water. If it be not soon extinguished, it communicates, by means of subterraneous channels, to the roots of the adjacent trees, which it consumes.

The principal ARTIFICIAL Curiosity in Poland is the *Salt Mines* at *Wieliczka* and *Bochnia*, in the vicinity of Cracow, which have been worked for several ages, and still appear to be as inexhaustible as ever. These mines form an immense series of excavations, with numerous shafts leading to the different parts of their wonderful caverns. The usual mode of descent is by being lashed to a kind of cable, which is then suffered to descend by means of the weight which is thus attached to it. Dr. Neale visited the mine at Wieliczka a few years since, and says, “when all the party had descended, torches were lighted, and we found ourselves at the entrance of a chapel, hollowed out of the salt-rock, containing altars, columns, and statues. From thence we descended by spacious galleries and winding passages from one chamber to another, to the depth of 900 feet, where we found

our progress terminated by a large lake, formed by the accumulated waters of the springs issuing from the sides of the mine: these springs dissolve large quantities of salt in their passage, and when at rest deposit it in beautiful cubical crystalizations at the bottom of the lake, from which they are raked up by means of instruments with long iron prongs. The extent of these excavations is 6000 feet in their longest diameter, which is from north to south, and about 2000 from east to west; the greatest depth to which they have gone is 900 feet, but even below that level they have ascertained the existence of immense strata of salt extending from east to west to an unknown distance.—The chambers scooped out in various directions, resemble the aisles of a cathedral. We entered one that contained a large table; at which, on solemn occasions, (such as the visits of the members of the Imperial family) three hundred persons have been accommodated.—The workmen employed generally amount to about 150, and in one of the mines there is a stable for fifty horses. No women are ever permitted to enter them. The galleries and shafts are perfectly dry, and even dusty; for the salt, imbibing all moisture like a sponge, robs even the human body in its passage, and makes the mouth and throat feel hot and dry. The intricacy of the numerous passages is such, that they sometimes mislead even the best accustomed to them. The mines of Bochnia employ 250 workmen; their extent from north to south is only 750 feet, and from east to west 10,000 feet.—The richness of these mines is such, that it has been calculated that their contents might suffice for the whole population of Europe. Every year there are dug up six hundred thousand quintals; and although they have now been constantly worked since the year 1261, there is no appearance of their contents being exhausted.”—*Travels in Germany, Poland, &c.*

MONIES, WEIGHTS, MEASURES, AND EXCHANGES.

Since the partition of Poland, the *Monies, Weights, and Measures* of the countries among whom the division took place, have been more or less introduced. Those that in Poland vary in value in different parts of the country, and the following brief sketch is, therefore, chiefly confined to those of Warsaw, which are in the most general use throughout the present kingdom.

Monies of Account

Accounts at Warsaw are kept in Zloti, Guildens, or Florins of 50 Groschen each. The Groschen is also divided into 38 Pfennings. The Florin is likewise divided in the following manner.

			Eng. Pence.
3 Pfennings	equal to	1 Schilling	equal to 28 7/12
3 Schillings	—	1 Grosche	— 0 2/10 1/2
10 Groschen	—	1 Shostack	— 2 1/2
3 Shostacks	—	1 Florin	— 60 3/4

Coins.

Gild. s. d.
Ducat, equal to 12 Florins, or 600 Groschen.

Silver.

Rix-dollar	equal to	1 Rhenish	equal to	1 1/2
Half ditto	—	1 ditto	—	0 3/4
Quarter ditto	—	2 ditto	—	1 1/2
Pieces of	—	1 ditto	—	0 1/2
	—	1 ditto	—	0 1/2
	—	1 ditto	—	0 1/2

The Copper coins are pieces equal in value to 3, 1, and 1/2 Groschen, and to 1/2, 1/4, and 1/8 Polish.

Various foreign coins are in current in Poland. The Ducat is for 12 Polish Florins; Austria 80 Kreuzers for 12 Florins; Spanish Pietscher for 10 Florins; Old Russian Imperials for 10 Florins; New Imperial for 10 Florins; and the New Russian Rubles for 10 Florins; 10 Groschen each.

WEIGHTS.

The following are the proportions and values of the commercial weights: viz.

			Avoir. lbs.
1 1/2 Skoycecs	equal to	1 Loth	equal to 0 1/2
32 Loths	—	1 Pound	— 0 1/2
32 Pounds	—	1 Stone	— 20 1/2
5 Stones	—	1 Centner	— 153 1/2

The Cracow pound, sometimes called the common Polish pound, is rather heavier than the pound of Warsaw, and golbs. of Cracow are equal to 3 lbs. avoirdupois. A new weight was established in Poland, in 1766, the pound of which weighs 636 grains, and therefore 100 of these Polish pounds are very nearly equal to 13 lbs. avoirdupois.

MEASURES.

Corn Measure.

Corn is measured by the *Korzec*, which at Warsaw contains 32 Garnices or Pots, at Lublin 28, at Sandomir 24, and at Cracow only 16 Garnices. Sixty Korzees make one last, which is very nearly equal to 11 English quarters. The *Korzec* is therefore 1 2/5 of a Winchester Bushel.

Liquid Measure.

			Eng. Wine gall.
4 Quarters	equal to	1 Garnice	equal to 0 1/3
36 Garnices	—	1 Bezka or Ton	— 15 1/3
2 Bezkas	—	1 Stangiew	— 50 2/3

Long Measure.

The ell is the usual commercial measure of length in Poland. The old Warsaw ell was 2 1/4 English inches in length, and the Cracow ell 22 1/2 inches. But the uniform ell, which has been established since 1765, is 24 1/6 English inches long. Hence, 10 ells equal 27 English yards. The Cracow foot is equal to 11 1/6 English inches.

EXCHANGES.

The following are about the medium rates of Exchanges, between Warsaw and the countries with which it has the most commercial intercourse: viz.

With London.....	42 Polish Florins for £1
Amsterdam	1 Ducat 10 1/2 Dutch Stivers current.
Hamburg	1 Ducat 6 Marks banco.
Paris.....	1 Ducat 2 2/3 Sous.
Vienna	1 Ducat 4 1/2 Florins, Vienna currency.

G E R M A N Y.

GENERAL VIEW.

Name — Boundaries — Extent — Population — Original Inhabitants — Progressive Geography — Present Division — Constitution — General Surface — Mountains — Rivers — Climate — Soil — Culture — Productions — Manufactures — Commerce — Religion — Language — Literature — Arts and Sciences — Manners and Customs — Antiquities

THIS country holds an important rank among the territorial divisions of Europe. Its NAME is generally supposed to be of Roman origin; but some authors have derived it from a Teutonic word, signifying *warlike*, an appellation to which the ancient Germans had an undoubted claim. Germany occupies a great part of central Europe, and is BOUNDED on the north by Denmark and the Baltic; on the east by Poland; on the south by Hungary, Italy, and Switzerland; and on the west by France and the Netherlands. It is more extensive than either France or Spain, being about 650 miles from north to south, and 600 from east to west; and embraces a surface of 220,000 square miles, with a POPULATION of more than 30 millions of inhabitants. This gives about 136 individuals to each square mile. Unlike the countries above mentioned, it is not consolidated under one government, but divided into a number of sovereign, independent, and confederate states.

The first people who are known to have inhabited the north-west parts of Germany were the *Cimbri*, or northern *Celts*; and some of the southern parts seem also to have been occupied by them at the earliest periods of their history, when the north-east portion was inhabited by the Finns. Subsequently to those periods, the ancient Scythians or Goths emerged from their abodes on the shores of the Euxine, and expelled the Cimbric and Finnish nations from the regions of Germany. These were afterwards increased by the *Sclavonians*, the Sarmatæ of the ancients. The German nations, which sprang from these original stocks, overthrew the western empire of Rome, and thus acquired that warlike fame which the Roman historians have perpetuated.

The recent events, which not only shook but dislocated the political fabric of Europe, have conferred a peculiar interest on the PROGRESSIVE GEOGRAPHY of Germany, and even rendered a perspicuous view of the changes it has experienced necessary to a clear comprehension of its present state. Previously to the late revolution, a German author emphatically denominated that empire “a chaos supported by Providence;” and its Political Division was justly considered as the labyrinth of European Geography. But this tottering fabric has at last sunk beneath the incumbent weight of contending interests, and a system more conso-

nant to the wisdom of an enlightened era has been substituted in its place. The German empire was always a confederation of the most extensive and complicated kind, and lately formed a union of more than three hundred states, including kingdoms, principalities, archbishoprics, bishoprics, lordships, and free cities. Each of these was independent in the administration of its own affairs, but subject to the emperor, as the head of the empire, and to the laws enacted for the good of the whole.

For the more effectual administration of these laws, the empire was divided into large provinces, denominated *Circles*. The number of these was *nine*, each comprehending several states. In the north, were *Upper* and *Lower Saxony* and *Westphalia*; in the south, *Suabia*, *Bavaria*, and *Austria*; and in the middle, the *Upper* and *Lower Rhine*, with *Franconia*. The princes, prelates, and deputies, belonging to the subdivisions of these great provinces, met at certain periods, and constituted a deliberative assembly, denominated the *Diet*.

Their place of meeting was Ratisbon, and their business, to discuss the affairs of the empire and to enact general laws. This Diet was composed of three bodies or colleges; the first consisted of electors; the second was composed of princes; and the third of deputies from the imperial or free cities. Peace and war, the levying of general taxes, and the assessment of different states, were among the chief subjects submitted to the deliberation of the Diet. But it required the consent of the Emperor to give the results of these deliberations the force of laws. In him also was vested the power of convening this august assembly, and of sending commissioners to preside in his stead. The imperial dignity, though not hereditary, was possessed for several ages, almost without interruption, by the House of Austria, as the most powerful House of Germany.

The election of Emperors took place at Frankfort on the Maine, and the ceremony of coronation, since that of Ferdinand I., was always performed in that city. All the German Princes formerly had a vote in the election of the Emperors; but since the bull of gold was given by Charles IV., in 1356, this right has been restricted to the electoral princes, the number of whom at first was only *seven*. After the peace of Munster, in 1648, they were increased to eight. The Emperor Leopold, in 1692, created a new electorate, that of Hanover, in favour of the House of Brunswick. The nine electors then consisted of three ecclesiastical, and six secular princes. These were the archbishops of Treves, Cologne, and Mentz; the king of Bohemia; the Duke of Bavaria; the Duke of Saxony; the Marquis of Brandenburg; the Prince Palatine; and the Duke of Brunswick Lüneburg. But on the death of the elector of Bavaria, in 1777, this electorate was united to that of the Prince Palatine. Though the electors and other sovereign princes of the Germanic body had, in general, an absolute authority in their own dominions, an appeal might, in particular cases, be made from their decisions. The two tribunals before which these appeals were carried, were the *Imperial Chamber of Spire*, held at Wetzlar, in the circle of the Upper Rhine, and the *Aulic Council*, which assembled in the city where the Emperor resided. These tribunals judged the causes of the nobles, who were summoned to appear before them.

The Treaty of *Campo-Formio*, concluded on the 17th of October, 1797, and still more that of Luneville, on the 9th of February, 1801, caused great changes in the German empire. By the terms of the first, all that part of Germany situated on the left bank of the Rhine, was united to France; and in execution of the last, conformably to the decree of the Diet, passed on the 25th of February, 1803, the ecclesiastical electorates of Treves and Cologne were suppressed; while that of Mentz was transferred to Ratisbon, to which the titles of elector and arch-chancellor of the empire were attached. Four new electorates were also created in favour

of the Archduke, the Landgrave of Hesse-Cassel, the Duke of Wirtemberg, and the Margrave of Baden ; so that the number of electors was raised to ten ; six of whom were Protestants, and four Catholics. The Imperial cities, which had previously been much diminished, were then reduced to six ; viz. Hamburg, Bremen, and Lubeck, in the circle of Lower Saxony ; Frankfort-on-the-Maine, in the circle of the Upper Rhine ; Nuremberg, in Franconia ; and Augsburg, in Suabia. Two other cities were likewise under the immediate protection of the Emperor, and were free from all war contributions ; these were Ratisbon, the seat of the Diet, and Wetzlar, that of the imperial Chamber. Such was the state of this complicated political fabric, when the military events of 1805 undermined its basis, and hastened its downfall.

Many of the Princes separated themselves from the empire in 1806, and the emperor was obliged to renounce the imperial sway, and confine his authority to his own hereditary dominions, exchanging the title of Emperor of Germany for that of the *Emperor of Austria*. A new confederacy was then formed under the protection of France ; which was subsequently joined by several of the other German states. This new political machine was denominated the *Confederation of the Rhine*. Its principal states were

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|--------------------------------------|--|
| 1. The Kingdom of Westphalia, | 6. The Grand Duchy of Baden, |
| 2. The Kingdom of Saxony, | 7. The Grand Duchy of Wurtzburg, |
| 3. The Kingdom of Bavaria, | 8. The Grand Duchy of Hesse Darmstadt, |
| 4. The Kingdom of Wirtemberg, | 9. The Grand Duchy of Berg and Cleves |
| 5. The States of the Prince Primate, | 10. The States of Mecklenburg. |

Besides these more powerful governments, the following independent States were included in the confederacy, viz.

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|---------------------------------|-----------------------------------|
| The Duchy of Nassau, | The Principality of Hohenzollern, |
| The Duchy of Arenberg, | The Principality of Isenburg, |
| The Duchy of Oldenburg, | The County of Waldeck, |
| The Electorate of Hanover, | The County of Lippe, |
| The Principality of Anhalt, | The Hanseatic Towns. |
| The Principality of Schaumburg, | |

Thus, completely under the power of France, with large armies maintained at the expense of the occupied countries, did Germany remain till 1813, when fairer prospects opened, hope revived, and a memorable display of patriotic zeal burst forth among the German nations. These led to combined efforts for the recovery of freedom, which being supported by stronger powers, and guided by brighter examples, soon delivered Europe from the desolating scourge of a perfidious war. The Confederation of the Rhine, which had stood the seven years' monument of ambition, on the one hand, and of self-interest and pusillanimity, on the other, was then dissolved. The Constitution of Germany was, therefore, to be remodeled ; and to the Congress at Vienna this important task was assigned.

In forming the Confederation of the Rhine, many of the inferior princes and knights of the German empire had been deprived of their sovereign power, and the Congress increased the number. An Emperor of Germany no longer exists ; but the Title of Emperor of Austria is rendered hereditary. The title of elector has consequently ceased ; and the Germanic body has been formed into a new federal state, in which the Emperor of Austria has no other preponderance than that which arises from the extent of his dominions within the limits of the Confederacy. Two new kingdoms were created in the north, and two in the south. These were Hanover and Saxony, in the former ; and Bavaria and Wirtemberg, in the latter. Between these are situated several of the smaller states, which have survived the wreck of the former constitution. Part of the Prussian dominions also

stretches to the western confines of Germany; and the Grand Duchy of Baden spreads along the right bank of the Rhine.

The great powers of this new Confederation are Austria, Prussia, Hanover, Saxony, Bavaria, and Wirtemberg; but the smaller states have votes in the general assembly, proportionate to their territorial extent and population. This union was formed for the maintenance of the internal peace, and external safety of Germany, and for the independence and security of the confederate states. A new Diet was, therefore, instituted to watch over the General interests of the whole. In this Diet, each member of the Confederacy has an equal vote. These members, as constituted by the act of Congress, are seventeen, which are composed of the following separate or combined powers.

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| <ol style="list-style-type: none"> 1. Austria. 2. Prussia. 3. Bavaria. 4. Saxony, kingdom (not the duchies.) 5. Hanover. 6. Wirtemberg. 7. Baden. 8. The electorate of Hesse. 9. The grand duchy of Hesse. 10. Denmark for Holstein and Lauenburg. | <ol style="list-style-type: none"> 11. The Netherlands for Luxemburg. 12. The grand ducal, and the ducal houses of Saxony. 13. Brunswick and Nassau. 14. Mecklenburg, Schwerin, and Strelitz. 15. Oldenburg, Anhalt, and Schwartzburg. 16. Hohenzollern, Lichtenstein, Reuss, Schaumburg-Lippe, Lippe, and Waldeck. 17. The free towns of Lubeck, Frankfort, Bremen, and Hamburg. |
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This list therefore exhibits the present political Division of Germany, and the states included under the same number vote in the Diet conjointly. The deliberations of this legislative body embrace all ordinary discussions; but when general laws are to be enacted, or changes made in the fundamental rules or principles of the Confederation, the Diet forms itself into a general assembly, in which each state votes separately. But as it would evidently have been an unequal partition of power to have given each an equal voice in this assembly, the number of votes possessed by the several states are regulated by their territorial extent and importance. For this purpose, the whole of the Confederacy is divided into four classes, which, with the population of each state, according to the official returns of 1818, and the number of votes it possesses in the general assembly, are as follow, viz.

FIRST CLASS.

<i>States.</i>	<i>Population.</i>	<i>Votes.</i>
1. Austria (for her possessions within the limits of the Confederacy)....	9,182,227	—4
2. Prussia (exclusive of her Polish territories).....	7,923,439	—4
3. Saxony, kingdom of	1,200,000	—4
4. Bavaria, kingdom of	3,560,000	—4
5. Hanover, kingdom of.....	1,305,350	—4
6. Wirtemberg, kingdom of	1,395,463	—4

SECOND CLASS.

1. Baden, Grand Duchy of.....	1,000,000	—2
2. Hesse-Cassel, Electorate	540,000	—3
3. Hesse-Darmstadt, Grand Duchy	619,500	—3
4. Holstein and Lauenburg, Duchies	360,000	—3
5. Luxemburg, Grand Duchy	214,058	—3

THIRD CLASS.

1. Brunswick, Duchy	209,006	—2
2. Mecklenburg-Schwerin, Grand Duchy	358,000	—2
3. Nassau, Duchy	302,767	—2

FOURTH CLASS.

<i>States.</i>	<i>Population. Votes.</i>
1. Saxe-Weimar, Grand Duchy	201,000—1
2. Saxe-Gotha, Duchy	185,682—1
3. Saxe-Coburg	80,012—1
4. Saxe-Meinungen	54,400—1
5. Saxe-Hildburghausen	27,706—1
6. Mecklenburg-Steriltz, Grand Duchy	71,769—1
7. Oldenburg, Grand Duchy	217,769—1
8. Anhalt-Dessau, Duchy	52,947—1
9. Anhalt-Bernburg	37,046—1
10. Anhalt-Kothen	32,454—1
11. Schwartzburg-Sondershausen, Principality	45,117—1
12. Schwartzburg-Rudolstadt	53,937—1
13. Hohenzollern-Hechingen	14,500—1
14. Lichtenstein	5,546—1
15. Hohenzollern-Sigmaringen	35,360—1
16. Waldeck, County	51,877—1
17. Reuss (Elder Branch) Principality	22,255—1
18. Reuss (Younger Branch)	52,205—1
19. Hesse-Homburg	20,000—1
20. Schaumburg-Lippe	24,000—1
21. Lippe-Detmold	69,062—1
22. The free Town of Lubeck	40,650—1
23. Frankfort	47,850—1
24. Bremen	48,500—1
25. Hamburgh	129,800—1
	<hr/>
	30,091,489--69

To maintain the rank of this federative body among the states of Europe, a military armament was necessary; and this, in time of peace, is composed of 120,000 men, including 96,000 infantry, 18,000 cavalry, and 6000 artillery. In war the contingent is to be greatly increased; the forces being one in every hundred of the population, which, according to the preceding, would be 301,000. A reserve of one in every 200 is also to be maintained; which would therefore at present amount to 150,000 men. Of this army,

Austria furnishes	94,822
Prussia	79,234
Bavaria	35,600
Wirtemberg	23,955
Hanover	13,054
Saxony, kingdom of	12,000
Baden	10,000
The other States	32,335
	<hr/>
	301,000

The pecuniary contributions of the several members of the Confederacy have also been voted for five years; after which the proportions are subject to revision. The fortresses that are considered as essential to the defence of the dominions, belong in common to the confederation, and are to be repaired and supported at the general expense. Germersheim as commanding the passage of the Rhine, is to be made a place of great strength; as well as Homburg and Ulm. For completing the fortifications of the last of these places, the sum of £800,000 was voted by the Diet in 1818. In time of war, a generalissimo is to be chosen by the Diet, and who is to be accountable to them alone for his conduct.

Having thus briefly sketched the political constitution, and stated the present

division of Germany, its physical features and general circumstances demand a slight survey ; those of a more local nature being reserved for the description of its particular states.

The GENERAL SURFACE of Germany presents much variety ; but is divided into two great parts, by a marked line of mountains stretching nearly from west to east. On the north of this ridge, the face of the country inclines towards the shores of the Baltic Sea and the German ocean ; for it is to these final receptacles that its rivers flow. The southern part forms a great vale, intersected by the Danube, and having its general slope towards the south-east. The secondary declivities of this part of Germany are from both north and south. The mountains that thus divide the waters of the Baltic from those of the Black Sea, and which are sometimes called the Suedetic chain, commence in Westphalia and traverse Hesse-Cassel and the kingdom of Saxony ; and then, passing through Silesia, terminate in the Carpathian range, on the confines of Hungary and Poland. The region north of this ridge is in general flat, and contains many sandy plains and marshy districts. Southern Germany possesses much more diversity. There the vast plain is contrasted with the stupendous mountain, the gentle declivity with the abrupt descent, and the fertile valley with the barren rock. Generally speaking, the north is the most level, the east the most variegated, and the south the most mountainous. A hilly region commences on the western side, near the borders of Hanover, and extends to about the 50th degree of latitude. In the northern parts of this ridge, are the mountains of Hartz, which are celebrated for their mineral treasures. The highest of these summits is about 3500 feet. Those towards the opposite extremity are the mountains of Hesse. An elevated range also separates Bohemia from Bavaria. A branch of this chain stretches likewise through the western part of Saxony ; and another divides the northern parts of Bohemia from the same kingdom. These are denominated the Erzeberg, or metallic mountains, and abound in various minerals. Another elevated ridge stretches from the western confines of Bohemia to the southern regions of Wirtemberg, where a mountainous tract, denominated the Black Forest, commences. Part of the Rhatian or Tyrolese Alps runs through the southern districts of Bavaria, and is connected with the Swiss Alps, to which its highest peaks are little inferior.

Few parts of Europe exceed Germany in the number and magnitude of their RIVERS. Not less than sixty of these are navigable. The Danube, the Rhine, the Main, the Neckar, the Weser, the Elbe, and the Oder, are deservedly classed among the noblest streams of Europe—The extent and celebrity of the Danube and the Rhine, caused them to be described in the GENERAL VIEW OF EUROPE.

The Elbe is one of the largest rivers in Germany, and flows in a north-west direction, till it falls into the German ocean, about the 54th degree of latitude. After passing through Bohemia, it intersects the kingdom of Saxony, and the principality of Anhalt ; and separates Prussia, Mecklenburg, and Holstein, on the right, from Westphalia and Hanover on the left. It then forms a broad estuary, and subsequently mingles its waters with those of the ocean, after completing a course of about 500 English miles. On the right bank, the Havel pours into it the collected waters of the Spree, and several other large streams. On the opposite side, the Saxon Mulda enters it at Dessau, and the Saale a few miles below. The tide of the Elbe is perceptible more than twenty miles from the sea ; and large ships ascend nearly to Hamburg.

The WESER is formed by the junction of the Werra and the Fulda, and falls into the sea west of the Elbe. These rivers rise in a mountainous district, near the western confines of Saxony, and unite in the vicinity of Munden, in

Westphalia. The whole length of the **Weser** is about 270 miles; and its principal tributary stream is the **Aller**, which enters it about the middle of the late electorate of Hanover. It is subject to great inundations, which, in some places, fertilize the soil, but in others increase the marshes, and augment the insalubrity of the atmosphere.

The **MAINE** issues from the mountains that separate Bohemia from the north-east of Bavaria. In pursuing a meandering course towards the west, it passes through some of the richest provinces in Germany, and pours its copious stream into the Rhine near Mentz. In this progress it is joined by numerous tributary streams, the principal of which are the Regnitz, the Franconian Saale, the Tauber, and the Rodach. The Maine is navigable to Bamberg, and greatly facilitates the commerce of western Germany, particularly that of Frankfort and its neighbourhood.

Another of the large rivers of Germany is the **NECKAR**, (also a tributary stream of the Rhine,) which it enters near Mannheim, about thirty miles south of the Maine. The principal part of its course, which is estimated at 150 miles, is through the kingdom of Wirtemberg and the Grand Duchy of Baden.

As the **VISTULA** has a great part of its course in the dominions of the Germanic confederacy, it may be noticed in this place. It rises near the confines of Silesia, flows through Austrian Galicia, part of Poland and Prussia, and enters the Baltic, by three outlets, near Dantzic.

The **ODER** is principally a Prussian stream, rising in the northern declivity of the Moravian mountains, and falling into the Baltic, after a northern course of about 400 miles.

Ancient Germany was a region of **FORESTS**; but these have long since vanished, in a great measure, before the progress of population, and the wants of man. The **CLIMATE**, which in many parts was then cold and damp, has become agreeable and salubrious; but in a country stretching from the 46th to the 54th degree of latitude, much diversity is still experienced. The latitude of the northern parts being the same as that of England, great resemblance is found in the climate and productions of the two countries. The winter is generally colder, and the summer warmer on the continent than in Britain. In the marshy districts, near the North Sea and the Baltic, the atmosphere is damp and insalubrious. Many of the southern districts of Germany possess a temperature sufficient to ripen grape and other delicate fruits; and as these are mountainous regions, with extended vallies, they also present the temperature and products of northern climes. Even tracts where winter bears perpetual sway are not unknown.

The **SOIL** and **FERTILITY** of Germany are not less variable than its climate. In some districts, sandy plains and barren heaths abound, but numerous tracts are extremely productive. Much of the western territories of Prussia is sterile, and the hereditary states of Austria, with Wirtemberg and Bavaria, contain many rugged and barren mountains, with others that are covered with forests. The vallies and plains, however, are capable of yielding the most diversified products, and require only better cultivation to make them supply all the necessaries, and most of the luxuries, of life.

The natural products of northern Germany are similar to those of Britain. Wheat and other common kinds of grain, with hops, flax, madder, rape-seed, &c. are objects of general attention. Large tracts still remain in a state of nature, and others, if properly cultivated, might be made to produce double what they now yield. This remark is also applicable to the southern districts, in many of which the art of agriculture is still very imperfect. The vine flourishes in the southern

vales, and wine is made in all the districts along the Rhine, from the borders of Switzerland to the banks of the Maine. The vine is likewise cultivated in several of the Austrian provinces; and in some of the southern parts silk is an object of attention. Rice, maize, tobacco, saffron, and many kinds of leguminous plants, with apples, pears, plums, cherries, prunes, almonds, peaches, apricots, olives, figs, and several other fruits, are grown.

The domestic ANIMALS vary in different regions. In Holstein, and other districts of the north-west, the horses and oxen are of a superior kind. Oldenburg, Hanover, Wirtemberg, Anspach, Bamberg, Wurtzburg, and the hereditary dominions of Austria, all contain good horses. The German horses are more noted for weight than spirit. Sheep are kept throughout Germany; and the Merinos, that have been introduced into Saxony, have rendered the wool of that kingdom of a superior quality. The wool of Germany, however, generally speaking, is inferior to that of England, Spain, or even France. The parts where the greatest quantities of wool are produced are in the environs of the Rhine, in the Austrian dominions, in Saxony, Mecklenburg, Pomerania, and Bohemia.

The number of sheep, in comparison with the extent of the country, is not more than *one-third* of those in England. In some of the southern districts the breeds of horses, cattle, and sheep, are good, particularly in Bavaria, where this branch of domestic economy has lately been prosecuted with great success.

Many parts of Germany still abound with forests, which afford cover for most of the *wild animals* to be found in other parts of Europe. These forests spread over large tracts in the Palatinate, Franconia, Bavaria, Wirtemberg, Hesse, Saxony, and some other places. Wolves are numerous and fierce in the mountains of the south; and in Westphalia the wild boar is particularly distinguished for size and strength. The lynx inhabits the forests on most of the mountainous tracts. As the coast of Germany is comparatively so limited, the country can derive but scanty supplies of fish from that source; but the innumerable rivers, lakes, and ponds which every where abound, are richly stored.

Germany is opulent in FOSSIL and MINERAL substances. The mountains on the borders of Bohemia afford silver, copper, tin, lead, and iron, with cobalt, bismuth, and other fossils, among which are agates and jasper. The mines of silver, lead, copper, iron, and cobalt, are very productive. The mountains of Hartz, in the kingdom of Hanover, and those in the Grand Duchy of Hesse, produce most of the above metals; but the mines of the last district are inferior to those of the other states. The kingdoms of Wirtemberg and Bavaria, and the southern parts of the Grand Duchy of Baden, abound with metals. The first yields silver, copper, and iron; and the last produces gold, silver, copper, and lead. Besides these, salt and quicksilver are valuable articles, and fuller's earth, porcelain-clay, coal, marble, and various kinds of stone, deserve to be enumerated.

The MINERAL WATERS of Germany are both numerous and celebrated. Those at Spa and Pymont, in Westphalia; at Carlsbad, in Bohemia; and at Wildungen, in the country of Waldeck, are noted in all parts of Europe. Those at Ems, in Bavaria, near the lake of Constance; at Wisbaden and Schwalbach, in the Duchy of Nassau, which were known to the ancient Romans; and those of Baden, in the Grand Duchy of the same name, are much resorted to on account of their medicinal qualities. They have all been recommended by physicians, and frequently used with success. The springs of Wildungen have long been celebrated, and are said to possess an intoxicating quality.

MANUFACTURES have made great progress in Germany, though the multiplicity of states into which it was divided presented obstacles to their improvement, which the little attention paid to the subject by the respective governments was ill

calculated to remove. The staple of these is linen, to which the abundance of excellent flax, produced by most of the northern states, is favourable. This is not only made in sufficient quantities for home consumption, but much is exported. *Woollen cloth is also manufactured in many parts of the country, but on a smaller scale than the linen.* It is inadequate even to the local demands. The cotton trade has been introduced, and the late exclusion of the English from many parts of the continent was favourable to its progress. Hence, the re-admission of British goods has caused a great competition between them and the German manufactures; the one country enjoying an advantage in the rapidity of produce and delicacy of fabric, and the other in the low price of labour. Great ingenuity is displayed in many small articles; particular those made of wood, ivory, and steel. The toys of Nuremberg, and the trinkets of Berchtholdsgaden, have long maintained a deserved reputation. Paper, glass, leather, lace, and hardware, are made. The numerous mines afford excellent materials for hardware and other metallic articles, but in these the Germans are much inferior to the English.

The situation of Germany, as a central country, is favourable to COMMERCE. Though possessing few ports, the easy communication with the Baltic and the North sea, by means of the large rivers that intersect its whole territory, afford great facility to its mercantile transactions. The progress of commerce was greatly impeded by the numerous territorial divisions, the imposts that were levied in passing from one state to another, and the monopolies to which this multiplicity of states were so favourable. Trade was little attended to in many parts of Germany, but became chiefly concentrated in the free towns, by which means they rose to be the richest and the most flourishing cities in the empire.

The principal exports of Germany are its natural products, and such articles as are manufactured from them. These are linens, grain, wax, leather, flax, glass, iron, steel, copper, smalt, rags, timber, and staves. Much of the linen is sent to America and the West-Indies. The chief Imports are colonial produce, from America and the West Indies; East Indian articles; wine, from France and Spain; with cotton, hardware, and other manufactured goods, from Great Britain.

The RELIGION of Germany varies in different states. Its rude tribes long roamed through its forests the votaries of *Woden*; and it was more tardy in receiving the benign doctrines of Christianity, than many other countries of Europe, although it was among the first in effecting the grand work of the Reformation. Several of the states in the south are still catholic, but toleration is allowed in most of them; and this was adopted as a leading principle by the Congress of *Vienna*. The prevailing doctrines are the Catholic, Lutheran, and Calvinistic. The two latter are adopted chiefly in the north.

Under the old Constitution, some of the Catholic Dignitaries were princes of the empire; but they have since lost their temporal power. Instead of deriving their emoluments from territorial possessions, the Catholic Bishops now receive their salaries from the state. Many of the abbeys and monasteries were secularized by the treaty of Luneville, and those yet remaining are chiefly in Austria. The Lutherans and Calvinists, in some of the northern parts of Germany, have agreed to relinquish their distinguishing appellations, and unite in one body, as the professors of the evangelical faith; and as some of the most desolating civil wars that Germany has ever experienced, were waged in the name of religion, she, of all other countries, has the greatest reason to wish that this bright exemplification of the true christian spirit may be followed by every sect in her dominions. Jews are numerous in most parts of Germany; and their political condition varies in different states. A few Greek Christians are likewise found in some of the south-eastern provinces, but they are not entitled to the same privileges as either Catholics or Protestants.

The various sects in the German dominions have been estimated at the following numbers, viz.

Catholics	15,000,000
Lutherans	12,500,000
Calvinists	2,200,000
Jews	183,000
Moravians (Hernhutters).....	25,000
Greek Church	14,000

The LANGUAGE of Germany has a great affinity to the Dutch, Danish, and Swedish, and embraces a number of dialects, some of which are more copious than any of the preceding tongues. It is spoken by a vast population, being not only the medium of communication in all the German states, but also in Switzerland, in parts of Hungary, of Russia, and of Alsace. Its general division is into High and Low German. The former is the language of Literature and of the superior classes in many parts, especially in Saxony; the latter is chiefly spoken in the parts bordering on Holland and the Baltic. The German language, even in its most improved state, is harsh to a foreign ear, on account of the multiplicity of its consonants. Great and laudable efforts have been made within the last century by literary men, to exchange the Latin, in which nearly all works were previously written, for their native tongue. On this head, M. *Schlegel*, in his lectures on the history of Literature, observes, when speaking of the latter part of the 18th century, that it had "been the great object of general ambition to add to the strength and variety, which are the distinguishing excellences of our native tongue, all those other advantages that characterized the most cultivated languages of ancient as well as modern times."

Germany likewise deserves particular attention on account of its LITERATURE, in certain departments of which it has now attained a pitch of eminence, once exclusively claimed by other nations. The Reformation was favourable to the diffusion of general knowledge, but the men by whom their literature was subsequently cultivated, formed so distinct a class in society, that their writings almost universally savour of unintelligible mysticism, or theoretical speculation. With such, the sceptical principles of the French school found a ready acceptance, and debased some of the best works of a late period. But a better taste appears to have arisen.—The age of contest and struggle seems to be passing away, and Literature, as she approaches her repose, assumes the more homely garb of sobriety and truth. As her votaries become more assimilated to their fellow subjects, their works exhibit a more practical and useful character. Besides the multiplicity of original publications that annually issue from the German press, there is no other country in Europe into whose language all the most noted works of both France and England are so rapidly translated.

In the department of *History*, the Germans are regarded as indefatigable in research, and correct in statement; but defective in their manner of narration, and deficient in the practical tendency of their views. In reference to another kindred branch, M. *Schlegel* observes, "at present, I see much both of false taste and affectation in our art and poetry, the imitation of the antique, and of the great men of the preceding age is conducted on narrow principles. Even in Philosophy we have not borrowed the best parts of those who have gone before us." The superior specimens of German poetry are strongly marked by energy and invention, but are not less distinguished by the defects which their own Critic has so candidly pointed out. The History of Literature is a province that has been particularly cultivated in Germany, and in which patient and deep research has been rewarded with deserved success. Metaphysics form a prominent part of German Literature; but

this has presented a wide field for the ardent wanderings of speculation. On this point, Madame de Staël observes, that the peculiar character of German literature is to refer every thing to an interior existence ; and as that is the mystery of mysteries, it awakens an unbounded curiosity."

Astronomy, Mathematics, and other branches of SCIENCE, have been successfully cultivated; and their works on Statistics, are remarkable for laborious accuracy, an indispensable requisite in such labours. But, it is rather in the collection of facts, than in their application to the science of Political Economy, that the Germans are distinguished. In the *Fine Arts*, painting and engraving have made great progress; but Sculpture has been less advanced. *Music*, however, is that in which the Germans excel; and in which they are, perhaps, unrivalled by any other nation in Europe. The knowledge it requires, and the patience that is necessary to execute it well, are natural to them, and some of their Composers have great variety, beauty, and sublimity of Imagination. It deserves also to be remarked, that in reference to Instruction, Literature, and Science, the Protestant States are superior to the Catholic; and, consequently, the north of Germany to the south.

"Modern architecture in Germany offers nothing for our contemplation worthy of being recorded; but the towns are in general well built, and are embellished by the proprietors with a good-natured care. In many, the houses are painted on the outsides with various colours; one sees upon them the figures of saints, and ornaments of every description; which, though assuredly not the most correct in taste, yet cause a cheerful variety, and seem to indicate a benevolent desire to please both their fellow countrymen and strangers. The dazzling splendour of a palace gratifies the self-love of its possessors; but the well-designed and carefully-finished decorations which set off these little dwellings have something in them kind and hospitable. The gardens in some parts of Germany are almost as beautiful as in England."—*Madame de Staël's Germany.*

Germany has been long renowned for the number and celebrity of its *Universities*. These lately amounted to thirty; but are now reduced to twenty-one; of which thirteen are Protestant, and six Catholic; in the remaining two, both professions are united. A late enumeration of these Universities presents the following statement:

Protestant.		Catholic.	
Berlin.....	Prussia.	Vienna	Austria.
Gottingen	Hanover.	Prague.....	Bohemia.
Leipsic }	Saxony.	Paderborn	Prussian Westphalia.
Jena }		Landshut }	Bavaria.
Halle }		Würzburg }	
Heidelberg	Baden.	Freyburg.....	Baden.
Tubingen.....	Wirtemberg.		
Erlangen	Franconia.		
Marburg	Hesse Cassel.		
Giessen	Hesse Darmstadt.		
Kiel.....	Holstein.		
Rostock	Mecklenburg Schwerin.		
Griesswald	Pomerania.		

Mixed.

Breslaw

Silesia.

Bonn

Lower Rhine.

This last was established in 1818.

One extraordinary feature in the German Universities, is the number of their Professors. In 1819, there were 67 at Berlin—51 at Heidelberg—52 at Breslaw. These advertised 140 courses of lectures.

Gottingen is the most numerously attended of these Universities. Its number of Students usually exceed 1000: in 1818, it was 1158. The numbers in several of the others, in 1819, as stated by Mr. Hodgskin, were the following. At Wurtzburg, there were 576—at Jena, 669—at Vienna, 995—at Berlin, 942—at Leicpsi,

911—at Prague, 850—at Landsbut, 640—at Halle, 503—at Breslaw, 366—at Heidelberg, 363—at Geissen, 241—at Marburg, 197—at Rostock, 180—at Kiel, 167—and at Griefswald, 55. The total number of Students usually exceeds 10,000.

The subsequent brief and general sketch of the MANNERS, CHARACTERS, and Customs of the inhabitants of these widely-diversified regions, has been drawn by one whose knowledge of the subject, and whose opportunities of observation, as well as her ability, render it peculiarly worthy of attention.

“ The whole German nation can be made to agree in some principal features only; for the diversities of this country are such, that it is difficult to bring together, under one point of view, religions, governments, climates, and even people so different. Southern Germany is, in very many respects, quite distinct from the northern; the commercial cities are altogether unlike those which are the seats of universities; the small states differ sensibly from the two great monarchies of Prussia and Austria. As there is no capital city in which all the good company of Germany finds itself united, the spirit of society exerts but little power; and the empire of taste, and the arms of ridicule, are equally without influence. The Germans are Saxons, Prussians, Bavarians, Austrians; but the Germanic character, on which the strength of all should be founded, is, like the land itself, parcelled out among so many different masters. The Germans are, generally speaking, both sincere and faithful; they seldom forfeit their word, and deceit is foreign to them. The power of labour and reflection is also one of the distinctive features of the people of Germany. They are naturally a literary and philosophical people; yet the separation into classes, which is more distinct in Germany than any where else, because society does not soften its gradations, is, in some respects, injurious to the understanding properly so called. The nobles have too few ideas, the men of letters too little practice in business. It is imagination more than intellect that characterizes the Germans. J. P. Richer, one of their most distinguished writers, has said *that the empire of the seas belongs to the English, that of the land to the French, and that of the air to the Germans*; in fact, we discover in Germany, the necessity of a centre and bounds to this eminent faculty of thought, which rises and loses itself in vacuum, which penetrates and vanishes in obscurity, which perishes by its impartiality, confounds itself by the force of analysis, and stands in need of certain faults to circumscribe its virtues. The Germans are sluggish and inert, and never hasten to any object; they find obstacles to all; you hear ‘*it is impossible*’ repeated a hundred times in Germany for once in France. When action is necessary, the Germans know not how to struggle with difficulties, and their respect for power is more owing to the resemblance between power and destiny, than any interested motive. As we rise a little above the lower classes, we easily perceive that internal vivacity, that poetry of the soul, which characterizes the Germans. The inhabitants of town and country, the soldiers and labourers, are all acquainted with Music. The poor Bohemians, as they wander, followed by their wives and children, carry on their backs a bad harp, made of common wood, from which they draw harmonious music. They play upon it while they rest at the foot of a tree on the high road, or near the post-houses, trying to awaken the attention of travellers to the ambulatory concert of their little wandering family. In Austria, the flocks are kept by shepherds who play charming airs on instruments at once simple and sonorous. These airs agree perfectly well with the soft and pensive impression produced by the aspect of the country. The Germans deserve credit also for the sincerity testified in their respectful acts of reverence, and their formal sanctity, which foreigners have so often turned into ridicule. There is no assemblage more whimsical than that displayed in the military aspect of Germany; soldiers at every step, and all leading a sort of domestic life. They are as much afraid of fatigue and of the inclemency of the air, as if the whole nation were composed of merchants and

men of letters ; and yet all their institutions tend, and must necessarily tend, to inspire the people with military habits. *

"The Germans, with some few exceptions, are hardly capable of succeeding in any thing which requires address and dexterity; every thing molests and embarrasses them; and they have as much need of method in action as of independence in ideas.

"The German women have a charm exclusively their own—a touching voice, fair hair, a dazzling complexion; they are modest, but less timid than English women; one sees that they have been less accustomed to meet with their superiors among men, and that they have, besides, less to apprehend from the severe censures of the public. They endeavour to please by their sensibility, to interest by their imagination; the language of poetry and the fine arts are familiar to them; they coquet with enthusiasm, as they do in France with wit and pleasantry.

"Southern Germany, temperate in every sense, maintains itself in a monotonous state of well-being, singularly prejudicial to the activity of conduct as well as of thought. The most lively desire of the inhabitants of this peaceful and fertile country is, that they may continue to exist as they exist at present; and what can this only desire produce? It is not even sufficient for the preservation of that with which they are satisfied. Many men of genius have been produced in the south, but they have formed themselves in the north. Near the coasts of the Baltic we find the noblest establishments, the most distinguished men of science and learning; and from Weimar to Königsberg, from Königsberg to Copenhagen, fogs and frosts appear to be the natural element of men of a lofty and vigorous imagination."—*Madame de Staël's Germany.*

The following sketch, from the same eminently descriptive writer, presents a lively picture of the ancient monuments of Art found in various parts of Germany.

"The monuments of Gothic antiquity only are remarkable in Germany; those monuments recal the ages of chivalry; in almost every town, a public museum preserves the records of those days. One would say, that the inhabitants of the north, conquerors of the world, when they quitted Germany, left behind memorials of themselves under different forms, and that the whole land resembles the residence of some great people, long since left vacant by its possessors. In most of the arsenals of German towns, we meet with figures of knights in painted wood, clad in their armour; the helmet, the buckler, the curiasses, the spurs, all according to ancient custom; and when we walk among these standing dead, who with uplifted arms seem ready to strike their adversaries, and hold their lances in the rest, this motionless image of actions, formerly so lively, occasions an impression of pain. It is thus that long after earthquakes the bodies of men have been discovered still fixed in the same attitudes, in the action of the same thoughts that occupied them at the instant when they were swallowed up. Göerres, a German writer, has given an interesting description of an ancient church. 'We see,' said he, 'figures of knights kneeling on a tomb-stone with their hands joined together; above them are placed some wonderful curiosities from Asia, which are intended to attest, as so many dumb witnesses, the voyages of the deceased to the Holy Land. The dark arches of the church cover those who rest beneath them with their shade; we might also imagine ourselves in the midst of a forest, the branches and leaves of which have been petrified by death, so that they will no longer move, or be agitated, when succeeding ages, like the midnight storm, shall roll through their lengthened vaults. The church resounds with the majestic sounds of the organ; inscriptions in letters of brass, half destroyed by the humid vapours of time, confusedly indicate those great actions which are now become fabulous, after having been so long considered as incontestably true.'"

EXTRACTS FROM THE ACT OF CONGRESS, RELATIVE TO THE CONSTITUTION OF THE GERMANIC CONFEDERATION.

IN addition to the previous statements relative to the present Constitution of Germany, which are substantially contained in Articles LIII—LVIII. of the GENERAL TREATY of Congress, signed at Vienna, 9th June, 1815, and more particularly specified in the Act entitled, *FEDERATIVE CONSTITUTION OF GERMANY*, agreed to by the Sovereign Princes and Free Towns of that confederation, and signed 8th of June, 1815, the following *Extracts* from this last Treaty embrace some of the most important principles of this new Constitution.

ARTICLE VII.—“ The question, whether a subject is to be discussed by the General Assembly, conformably to the principles above established, shall be decided in the Ordinary Assembly by a majority.

“ The same Assembly shall prepare the Drafts of resolutions to be proposed to the General Assembly, and shall furnish the latter with all the information necessary, either for adopting or rejecting them.

“ The plurality of votes shall regulate the decisions, both in the Ordinary and General Assemblies, with this difference, however, that, in the Ordinary Assembly, the absolute majority shall be deemed sufficient, while, in the other, two-thirds of the votes shall be necessary to form the plurality. When the votes are even in the Ordinary Assembly, the President shall decide the question : but when the Assembly is to deliberate on the acceptance or change of any of the fundamental Laws, upon organic institutions, upon individual rights, or upon affairs of religion, the majority shall not be deemed sufficient, either in the Ordinary or the General Assembly. The Diet is permanent, but may, when the objects submitted to its deliberation are terminated, adjourn for a period not exceeding four months.”

ARTICLE XI.—“ The States of the Confederation engage to defend from all hostile attack, the whole of Germany, as well as each individual State of the Union ; and they mutually guarantee to each other all their possessions comprised in this Union.

“ When war is declared by the Confederation, no member can open a separate negotiation with the enemy, nor make peace, nor conclude an armistice, without the consent of the other members.

“ While they reserve to themselves the right of forming alliances, the members of the Confederation bind themselves, nevertheless, not to contract any engagement which might be directed against the safety of the Confederation, or of any of the individual States composing it.

“ The confederated States engage, in the same manner, not to make war on one another, on any pretext, nor to pursue their differences by force of arms, but to submit them to the Diet, which shall attempt a mediation by means of a Commission. If this should not succeed in bringing the contending parties to an accommodation, and a juridical sentence becomes necessary, it shall be obtained by a well-organized *Austregal Jury (Austregal Instanz)* to which the contending parties are to submit without appeal.”

ARTICLE XIII.—“ There shall be Assemblies of the States in all the countries belonging to the Confederation.”

ARTICLE XVI.—“ The different Christian sects in the countries and territories of the Germanic Confederation, shall not experience any difference in the enjoyment of civil and political rights.”

ARTICLE XVIII.—“ The Princes and Free Towns of Germany have agreed to secure to the subjects of the Confederate States, the following rights :

A.—That of acquiring and possessing funded property beyond the limits of the State in which they are settled, without being liable to pay to the foreign Power any higher tax or duty than those paid by its own subjects.

B.—1. That of emigrating from one confederated State to another, provided it be proved that the State in which they settle receive them as subjects.

2. That of entering into the civil or military service of any of the confederated States ; it being, however, understood, that the exercise of either of these rights does not release them from being liable to military service in their own country. And, in order that the difference of the Laws with regard to their liability to military service may not be attended with any partial advantages, or injurious consequences, to any particular State, the Diet of the Confederation shall consider of the means of establishing Regulations upon this subject as impartial as possible.

C.—The exemption from all export duty, drawback, or other impost of that description, in case they remove their property from one confederated State to another, unless it should be otherwise stipulated by particular Conventions concluded between them.

D.—Upon the first meeting, the Diet shall frame laws for the liberty of the Press in general, and shall adopt such measures as may secure Authors and Editors against the piracy of their works ”

AUSTRIAN EMPIRE.

CHAPTER I.

Name—Situation—Boundaries—Extent—Population—Original Inhabitants—Progressive Geography—Present Division and Distribution of the Inhabitants.

THE NAME of this empire is derived from the circle of Austria, which is one of the provinces included within its territories, and was the patrimonial possession of the first grand Dukes. It is merely the modified French and Italian pronunciation of the German word *Osterich*, implying the eastern kingdom, as compared with the more western regions of Germany.

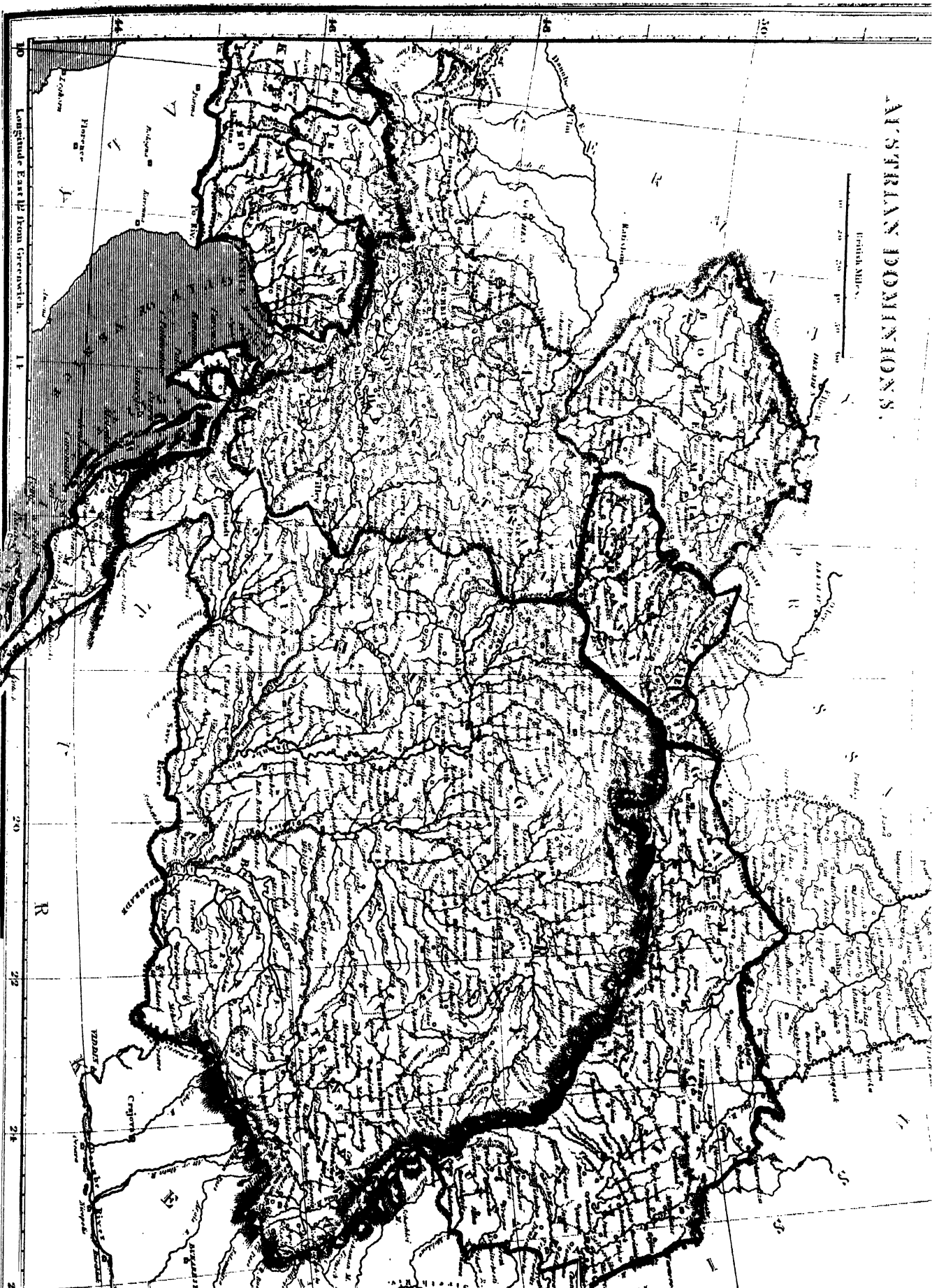
The Austrian empire not only comprises the province of the same name, but many ancient kingdoms and states, which at no very distant period exulted in their independence; but which now compose the extensive and compact dominions of the house of Austria. This empire is situated in the middle of eastern Europe, and is BOUNDED by Piedmont, Switzerland, and Bavaria, on the west; by Bavaria, Silesia, and Poland, on the north; by Russia, Moldavia, and Walachia, on the east; and by Turkey, the Adriatic, and the middle of Italy, on the south.

Its EXTENT, in 1816, was computed at 12,204.43 Austrian square miles, and its population at 28,178,836 inhabitants. As the Austrian geographical mile is fifteen to the degree, each of these is equal to 21.509 English square miles; and consequently the whole area of the Austrian empire, is 262,505 English square miles, which computation gives 107 persons to each square mile. In 1818, M. *Lichtenstern* stated the extent of the Austrian empire, exclusively of the *dependent* states, at 258,000 square miles, and the population at 28,207,882 individuals, which is nearly 110 persons to each square mile. Of these he states the Slavonic race at 13,182,000; the Germans at 5,342,000; the Italians at 4,226,000; the Hungarians at 4,225,000, the Walachians at 1,246,000; and the Jews at 487,000. In addition, there are a considerable number of Greeks, Turks, Albanians, and Armenians.—With respect to the distribution of these into classes, the same writer states the number of the Austrian clergy, exclusively of their families, at 64,000; about 56,000 of whom belong to the Catholic church. The nobles of both sexes are stated at 470,000; and the civil servants of the government, with their families, at 280,000. The military, including women, children, and servants, amount to 800,000; the burghers and tradesmen, with their families, to 2,333,000, and the persons engaged in agriculture, to about 20,025,000. Besides this territory, the superficial extent of the *dependent* states is 647.93 Austrian, or 13,936 English miles, and their population 1,988,000. Consequently, the whole extent is equal to 276,441 square miles, and the whole population amounts to 30,166,836 inhabitants; which is about 109 persons to each square mile.

The ORIGINAL POPULATION of the Austrian dominions was principally Gothic and Slavonic; and the descendants from the former stock constitute the most important part of the inhabitants. Bohemia and Moravia were originally Slavonic, while the southern parts of the empire contain many who are the posterity of the ancient Cisalpine Gauls, and of the colonies established among them by the Romans,

ASERIAN DOMINIONS.

French Miles.



Longitude East 12 from Greenwich.

20

22

24

2

after their generals, under Augustus and his successor, had subdued part of these territories. Only a small part of these vast dominions, formed the early possessions of the house of Austria. The vicissitudes of war, the calculations of policy, and the exercise of power, have all contributed to raise the Austrian empire to its present rank among European sovereignties; and few among them present greater variations in their territorial possessions, or afford a more interesting topic in their **PROGRESSIVE GEOGRAPHY**.

The Princes of Austria originally descended from the Dukes of Alsace; and were styled *Counts of Hapsburg*, from the castle of that name on the Aar, in Switzerland, which was their patrimonial residence, before they were called to fill the imperial throne of Germany. Count Rodolph was elected king of the Romans, in 1273; and bestowed the Duchy of Austria on his son Albert, with whom, therefore, the house of Austria commences. This Duchy then comprised the ancient Margraviate, and that part of Bavaria situated on the river *Enns*. As Count of Hapsburg, Albert possessed the greatest part of Oberland, in Switzerland, and some scattered territories in Suabia. In 1284, Styria, Carinthia, and Carniola, were added, but Albert, who was elected Emperor of Germany in 1284, lost all his hereditary territory in Switzerland in 1307. The Emperor Maximilian, grandfather to Charles V., acquired the Netherlands by marriage; and his son Philip obtained the Crown of Spain by the same means. The united dominions of Austria and Spain, were therefore possessed by Charles V., who, in 1527, augmented the territorial extent of the former by adding the kingdoms of Hungary and Bohemia, with Moravia, Silesia, and Lusatia. But in 1556, Charles resigned the Spanish dominions, and the Netherlands, to his son Philip II. At the conclusion of the thirty years' war, in 1648, Austria was obliged to relinquish the provinces of Lusatia and Alsace; the former to the Elector of Saxony, and the latter to France. Subsequently to this, however, Transylvania was added, and the boundaries of Hungary were enlarged. The peace of Utrecht, in 1713, and the *Barrier Treaty*, concluded two years afterwards, put Austria in possession of Belgium, the Duchy of Milan, the kingdom of Naples, and the island of Sardinia; but the last was soon afterwards exchanged for Sicily. By the peace of *Passarowitz*, in 1718, the Banat of Temeswar, Belgrade, and parts of Servia, Bosnia, and Walachia, were united to the Austrian dominions; but all these, except the Banat, were restored to the Porte, in 1739. In 1735, both Naples and Sicily were resigned to Spain, in exchange for the Duchies of Parma and Placentia. With Charles VI., who died in 1740, terminated the male branch of the house of Hapsburg.

The dominions of Austria then descended to Maria Theresa, the daughter and heiress of Charles VI. She was married to the Duke of Lorraine, and had immediately to contend with Prussia, Saxony, Bavaria, and Spain, each of whom laid claim to part of the territories that had been possessed by her father. The result of the struggle with these powers was, that Prussia obtained a great portion of Silesia, and the country of Galtz, in 1742, and Spain conquered the Duchies of Parma, Placentia, and Guastalla, in 1748. By the first partition of Poland, in 1773, Austria obtained Galicia and Lodomaria. The Bukowine was added, in 1777, and Innuiertel was annexed, in 1778. From that time the territorial extent of the house of Austria began to decline. The sovereign was still dignified with the title of the Emperor of Germany; but the territories and population over which this title extended have suffered great fluctuations since the commencement of the French Revolution. At that period the population of Austria was estimated at 25,000,000. This number was much increased, in 1796, by the accession of a great part of the kingdom of Poland, which was then dismembered and divided between Austria, Russia, and Prussia; but nearly an equal diminution was expe

rienced in the following year, by the cession of the Netherlands, and Lombardy, to France. The territory of the ancient republic of Venice was soon after transferred to Austria. The peace which this power was obliged to conclude with France, in 1801, caused a further diminution of territory. By that of 1805, which succeeded the disasters at Ulm and Austerlitz, the Venetian territories, Tyrol, and the Suabian principalities, containing a population of about 3,000,000, were given up as the price of peace. This was likewise the epoch which put a period to the Germanic constitution, and caused the title of "Emperor of Austria" to be substituted for that of "Emperor of Germany, and king of the Romans." A new war with France, in 1809, led to further losses, and to the union of the Emperor's daughter with Napoleon. The provinces which were then relinquished were,

1. The Illyrian Provinces to France.
2. Salzburg, and some other provinces, to Bavaria.
3. Some districts in Lusatia, belonging to Bohemia, and the whole of West Galicia to Saxony; and
4. Part of East-Galicia to Russia.

These contained more than 44,000 square miles, and a population of nearly three millions and a half, so that the number of inhabitants in the Austrian empire was then reduced to less than 20,000,000. But the final success of the allies, and the overthrow of the grand enemy of Europe, restored Austria to more than her former strength and splendour.

The present territory, as established by the Congress of Vienna, and subsequently by the treaty of Paris, 1815, is divided into twenty-one Provinces, besides the four dependent states. This division, with the respective extent and population of each, according to the statement of *Blumenbach*, are as follow :

Extent and Population of the Provinces of the Austrian Empire and its Dependencies, according to their present condition. (A. D. 1816.)

I.—THE AUSTRIAN EMPIRE.

	Square Miles.	Inhabitants.
1. The Kingdom of Bohemia	956·80	3,203,222
2. The Margraviate of Moravia	417·64	1,680,935
3. The Dukedom of Silesia	86·85	
4. Austria below the Enns	363·65	1,048,324
5. Austria above the Enns, 151·86 square miles, 417,625 inhabitants, together with the circle of the Inn and Hausruck, 59·92 square miles, 197,537 inhabitants; and Salzburg 132·54 square miles, 141,699 inhabitants	344·32	756,897
6. The Dukedom of Styria	398·98	799,056
7. The Dukedom of Carinthia	190·90	278,500
8. Illyria, 190·61 square miles, 358,831 inhabitants; and a part of Croatia, 60·34 square miles, 108,205 inhabitants	250·95	467,836
9. The Coast district	176·18	422,861
10. Tyrol, and Vorarlberg	520·44	717,542
11. The Lombardo-Venetian Kingdom	867·50	4,111,535
12. The Government of Dalmatia	274·94	295,089
13. The Kingdom of Galicia	1526·12	3,755,454
14. Civil Hungary, Croatia, and Sclavonia	4097·06	8,200,000
15. Civil Transylvania	1118·70	1,510,000
16. Transylvanian military frontiers		
17. Banat frontiers	186·00	171,657
18. Sclavonian frontiers	139·40	230,079
19. Warasdiner military Government	67·40	107,217
20. Carlstädter military Government	166·40	188,906
21. Banat regiments	54·20	95,442
	<hr/> 12,204·43	<hr/> 28,178,836

II.—DEPENDENT STATES.

	<i>Square Miles.</i>	<i>Inhabitants.</i>
1. Grand Dukedom of Tuscany	431'00	1,170,000
2. Dukedom of Modena	92'31	375,000
3. Dukedom of Massa and Carrara with Garfagnana	23'00	60,000
4. Dukedom of Parma	101'62	383,000
	<hr/> 647'93	<hr/> 1,988,000

A part of these territories is situated in Germany, which places the Emperor of Austria at the head of the princes that constitute that confederation. These states are *Austria Proper*; the *Duchy of Styria*; the *Duchy of Carinthia*; the *Archbishopric of Salzburg*; with *Tyrol* and *Voralberg*. The remainder of the Austrian dominions is out of Germany, and which we subjoin, for the sake of connecting the present with the former Division. They are,

1. *The Kingdom of Bohemia*, which comprises Bohemia proper, the Marquisate of Moravia, and Austrian Silesia.
2. *Eastern Galicia*..... This contains a part of Little Poland, which Austria obtained at the partition of that kingdom in 1772.
3. *The Kingdom of Hungary* Besides what is properly called the kingdom of Hungary, this includes the Banat of Temeswar, and Sclavonia.
4. *Transylvania*..... This province, which has been united with the Austrian dominions since 1694, derives its name from lying beyond mountains clothed with woods. It formed part of the ancient *Dacia*; and usually includes the Bukowine.
5. *Croatia*..... This country was called *Liburnia* by the Romans. It is now divided into two parts; the one situated on the right bank of the Save, the other joined to the new Kingdom of Illyria
6. *The Kingdom of Illyria* This kingdom was created in 1816, and is composed of Carinthia, the circle of Willach, Carniola, the country of Goritz, the circle of Clagenfurth, southern Croatia, the ancient Hungarian Littorale, Istria, Friuli, Dalmatia, Ragusa, and the islands in the Adriatic.
7. *Lombardo-Venetian Kingdom*... This new kingdom, which was formed by the Congress of Vienna, is composed of the countries of Chiavenna, Valteline, and Bormio, the Duchies of Milan and Mantua, with the states of Venice.

As the preceding statement also shows the absolute extent and population of each province, the comparative density of the inhabitants is easily obtained. Taking an English square mile as a standard of comparison, the Venetian territories afford a comparative population of 220 individuals on each mile: while the Banat frontiers contain about forty-three; and upper Austria about one hundred and twenty-seven. It also appears, that Lower Austria, though one of the most fertile districts of the empire, is less populous than the mountainous and manufacturing countries of Bohemia and Silesia, while the latter possess a greater population than the fertile plains of Hungary. The reason of this will be illustrated by the subsequent remarks on the agriculture and manufactures of the empire.

CHAPTER II.

Outlines—General Surface—Mountains—Rivers—Canals—Lakes—Climate and Seasons—Soil—Forests—Culture—Products.

MUCH of the OUTLINES of this empire is formed of arbitrary lines. In some places the banks of a river, in others a chain of mountains, and in the southern part, the shores of the Adriatic, form the natural boundary. This last renders Austria a maritime state. Here the coasts are steep and rugged, and numerous rocky islands skirt the shores, appearing like fragments of the eastern Alps, which terminate in this quarter. The river Save, and afterwards the Danube, divide Austria in part from Turkey. A chain of mountains, which joins the Carpathian range, separates it from Walachia and Moldavia. The Suedetic chain, and the mountains of Erzgebürg, bound Bohemia on the north and north-east; while another elevated ridge limits the same kingdom on the west. A branch of the Alps divides Tyrol from Bavaria. The remainder of the outlines is little distinguished by natural features.

THE GENERAL SURFACE of the country, which includes a great part of the Alps, the Carpathian, and other chains of mountains, with the vast basins of so many noble rivers, and the wide-spread plains of Hungary and Galicia, must embrace every conceivable diversity. The stupendous mountains, clad in almost perpetual snow, the tremendous avalanche, the hanging glacier, the foaming cataract, and the embosomed lake, with the majestic forest, the rolling river, the extended plain, and their varied combinations, include all that is sublime and terrible, pleasant and delightful, in prospect. Besides the chains above-mentioned, various ranges of mountains, and several detached hills, diversify the northern districts, and join the great Carpathian chain, which bounds the north and east of Hungary and Transylvania. The southern parts of the empire are rendered strikingly romantic by the eastern Alps, and their varied ramifications. Nor must the plains of Lombardy and the basin of the Po be overlooked as distinguishing features in the general landscape. Dalmatia, Carniola, and Carinthia, present many mountainous scenes; but among the Alpine regions of Europe, "The Tyrol stands pre-eminent for the rich variety of its picturesque scenery. Switzerland, it is true, presents objects that are more stupendous; but, if the masses are more vast, the outline is not so broken, nor are the more impressive features of landscape so much blended and so fully brought within the range of the eye, as in the Tyrolean district. Here the traveller, who delights in the union of the sublime and the beautiful, is sure to receive the highest gratification: here mountains and defiles of the boldest character, *glaciers*, cataracts, and lakes, of the most singular kind, with woods and vallies of a peculiar physiognomy, constitute a *tout ensemble*, within the scope of distinct vision, which overwhelms the beholder with such impressions and feelings as no words can express."

The Alps and the Carpathian MOUNTAINS have already been described in the general view of Europe. The ramifications of these, with the circular barrier of Bohemia, and numerous other ranges, occupy extensive regions of the Austrian territory; and, under various names and modifications, stretch from the confines of Switzerland to those of Russia. These mountains are of all altitudes and aspects,

from the towering height of the great Brenner, hiding his snow-capt summit above the clouds, to the gentle elevations of a few hundred feet. But an enumeration of individual summits would be tedious and uninteresting.

Austria is intersected in almost every direction by noble rivers, and divided into two distinct parts, from north-west to south-east, by the winding, the rapid, and the majestic Danube. This river receives 40 tributary streams before it enters the imperial dominions of the house of Austria, and about 100 more before it completes its lengthened course, by mingling its waters with those of the Euxine. The other rivers most deserving of notice are the Theiss, the Save, the Drave, the Raab, the Leytha, the Morava, and the Mulda.

The THEISS rises in the eastern part of the Carpathian mountains, and is at first a rapid and clear stream ; but after reaching the plain it becomes slow and turbid. It flows towards the west through more than four degrees of longitude, and then turning to the south, intersects Hungary, and enters the Danube, above the city of Belgrade. Its whole course is about 430 English miles. It exceeds most of the other rivers in Europe in the abundance of its fish. The Theiss receives many tributary streams, among which is the *Maros*, and the *Koros*. The former springs from the mountains of Transylvania, and flows westward to below Szegedin : the latter runs nearly parallel to the *Maros*, but is a few miles north of it. Both these collect the waters of numerous other streams. One of these is the *Berettyo*, which enters the Koras, and is nearly equal to that river in size. The *Bega* flows through Temeswar, and joins the Theiss before it is lost in the Danube. On the opposite side several rivers also enter it. Among them are the *Brodrogh* at Tokay, and the united waters of the *Hernath* and the *Sajo*, still further to the south. These are formed by numerous streams which descend from the southern flanks of the Carpathian mountains, as they wind round the northern limits of Hungary.

The river SAVE originates in the mountains of Tyrol, and after flowing a few miles towards the east, becomes the southern boundary of part of the Austrian dominions, till it joins the Danube below Belgrade. Its course is nearly equal to that of the Theiss ; but its tributary streams are less numerous.

The DRAVE originates in the western mountains of Carinthia, and flows nearly parallel to the Save, through the whole of Carinthia and Styria. It divides Croatia from Hungary, and unites with the Danube below Esseck. The Drave is navigable from Willach in Carinthia, to the termination of its course, a distance of nearly 300 miles. Its whole length exceeds 350 miles. The principal river it receives is the *Muhr*, at Legrad, which conveys to it the waters that descend from the northern mountains of Styria.

The INN rises in the elevated regions of the Swiss Alps, and descends towards the north-east, through the kingdom of Bavaria, till it forms the western boundary of the Austrian empire, and subsequently enters the Danube at Passau.

The RAAB and the LEYTHA are of much less extent. They water the western extremity of Hungary, and fall into the Danube ; the latter near Presburg, and the former at Komorn. The MULDA commences in the southern mountains of Bohemia, and winds towards the north, till it flows into the Elbe. The MORAVA or MARCH, from which Moravia derives its name, originates near the northern extremity of that province, and proceeds towards the south, and passes Olmutz, and Hradisch to the Danube, on the west of Presburg. The remaining rivers, north of the Alps, are chiefly subordinate branches of those already described.

Several noble rivers water the Austrian dominions south of the Alps. These chiefly descend from that grand encircling chain, and convey to the ocean the overflowings of the sub-Alpine lakes, which are cherished in its bosom, or spread their broad waters at its feet. The south-western boundary of the Austrian

territory is the **TESINO**, which has its source in Mount St. Gothard, and flows through the country of the Grissons, and the lake of Maggiore. Descending through the Milanese territory, it washes the walls of Pavia, and soon after falls into the Po. The **ADDA** originates in Mount Braulis, in the country of the Grissons, and runs through the valley of the Valteline into the lake of Como. It issues from the south-east arm of that lake and joins the Po near Cremona. Its navigation was improved by a canal, constructed in 1777. The **OGLIO** rises in the Bishopric of Trent. Flowing to the south, it crosses the Venetian territory, passes through the lake Isero, proceeds to the Duchy of Milan, and then winding to the south-east, flows through the Duchy of Mantua, and discharges its accumulated waters into the Po, a few miles east of the Adda.

The **ADIGE** and the Po will both be described in the **GENERAL VIEW OF ITALY**. The **PIAVE** also descends from the Alps, through the territory of Brixen and the province of Treviso, into the Gulf of Venice, about 15 miles north-east of that city. The other rivers in this part of the Austrian territory are either tributary to the above, or not of sufficient importance to be described in this general view.

Though the inland navigation of the Austrian empire is greatly facilitated by the number of large rivers it contains, it is still far from being so extensively useful as it might be. Government, however, has not been inattentive to this branch of internal economy ; for, besides the **CANALS** which are already completed, plans of the most gigantic kind have been formed for connecting all the great rivers with each other, and consequently for uniting the Austrian dominions with all other parts of Europe. The chief of these projects, as stated by *Joseph Shemerl*, in his work on water communications between Austria and the other countries of Europe, published in 1810, were, *first*, to unite the Moldau and the Danube ; *second*, the Danube and the Elbe ; *third*, the Weichsel and the Danube ; *fourth*, the Theiss with the Save ; and *fifth*, the Danube at Vienna with the Adriatic. Another canal has likewise been projected to pass from Pesh direct to Szalnok, thus uniting the Theiss and the Danube, above the canal of the Emperor Francis.

Many of the Austrian rivers are too rapid, or too much impeded by rocks and water-falls, to admit of that extensive navigation which the volume of their waters would lead us to expect. Even the majestic Danube is so much obstructed that its ascent is in some places difficult, and in others impossible. In reference to the inland navigation of the eastern regions of the empire, and which are most susceptible of such communications, the following extract from *Schwartner*, will afford the most authentic information.

“ It is to be lamented, that the navigation in the ascent of the Danube is so difficult ;—that in the Theiss, which flows with a more moderate stream, the returning navigation is prevented beyond Szegedin, on account of the low and marshy land by which it is surrounded, preventing the use of horses in drawing the vessels ;—that the river Gran is only navigable at particular seasons of the year ; and that Wagh cannot be navigated against the stream. The Save and the Drave are of greater importance for the foreign than the internal trade ; and the projects which have been lately entered upon for rendering the Körös and the Morava, or March, navigable, are not yet carried into execution.

“ The chief canals which have been brought to any degree of perfection, are the Bega canal, which passes from Facset through the whole Banat, by Temeswar to Becskerck, a distance of sixteen German miles, or seventy-three English, from which vessels may pass by the Bega into the Theiss near its junction with the Danube ; and that called the Emperor Francis's canal, which was finished in 1801, and joins by a course of thirteen and a half German miles, or sixty-two English, the Danube with the Theiss, passing from Monostorszeg, near Zombor,

to Földvár. This canal has a fall of twenty-seven feet between the Danube and the Theiss, and is provided with five locks.”—There are smaller canals in the Austrian dominions, on the southern side of the Alps; and the lakes Maggiore and Como are each connected with Milan by canal navigation.

LAKES are numerous in the Austrian territories; but they are inferior both in magnitude and interest to those of Russia and Switzerland. In the southern districts, and other elevated tracts, they partake of the mountainous character, and are formed by the collected waters of the higher regions, pent up in the vallies which oppose a barrier to their descent. In Hungary, and near the banks of some of the large rivers in other places, they are more properly marshes. There are several small lakes in Bohemia, particularly in the southern districts. Near the borders of Bavaria, there are three small lakes in the vicinity of each other. The largest lakes in the empire are in the western part of Hungary. The first is about 10 leagues south-east of Vienna. This is the *Neusiedler-See*, which is about 46 miles in circumference, but too shallow to be navigated, except by small boats. In general its shores are flat and marshy, overgrown with woods, and frequented by wild fowls. But a ridge of hills rises like an amphitheatre towards the west, the sides of which are covered with vineyards, and the summits with wood. The peculiarity of this lake is the saltiness of its waters, which renders them unfit for use. The salt sometimes crystalizes on the shores, and the peasants collect it for their cattle. One hundred parts of the salt, obtained by evaporating the water, are said to contain 77 of sulphate of soda, 8 of muriate of soda, and 15 of the soda uncombined.

The largest lake in the Austrian empire is the *Balaton lake*, or *Platten-See*, situated more to the south-east. Its length, from north-east to south-west, is about 45 English miles, and its breadth varies from four to nine miles. The greater part of its shores are but little elevated, though in some spots, particularly about Tihany, on the north-west shore, they are precipitous. The deepest places do not exceed 12 fathoms. It abounds with fish of various kinds, among which is the *perca lucioperca*, or *Fogas*, which is generally reckoned a great delicacy. The small lake Valenze is situated north-east of the Platten-See. Several other lakes of transparent waters are found among the Carpathian mountains.

Carinthia contains a large central lake in the neighbourhood of Clagenfurt. The singular lake of Cirknitz is situated among the mountains of Carniola, south of Layback; but, as it constitutes one of the most striking curiosities of the Austrian dominions, it will be described under that head.

On the southern side of the grand Alpine chain, several beautiful lakes form distinguishing features in the landscape, and impart a charm to the scenery which the combined effect of all the other constituent parts could not afford. Among these are Maggiore, or Lucarno, Lugano, Como, Lecca, Isèo, and Garda, which form a series stretching from west to east, on the southern flank of the Alps.

MAGGIORE, which is near the north-west border, is about 37 miles long from north to south, from three to six broad, and about 80 fathoms at its greatest depth. It is fed by the waters of several small lakes, and is about 678 English feet above the level of the sea. The water is clear, of a greenish hue, and well stocked with fish, particularly trout, perch, and tench. This lake is embosomed in hills, the sides of which are adorned with nurseries, orchards, and vineyards, and their summits crowned with thick forests of chesnut trees. The banks, in many places, present covered avenues in trellis work, diversified by numerous small sheets of water; and the surface is broken by several beautiful islands. The three largest are denominated the Boromean isles; they are adorned with temples and gardens, and celebrated by travellers for their resemblance to the enchanted scenes of romance.

Lake LUGANO is joined to Maggiore by a strait of about a league and a half in length. It is nearly twenty miles long, and four or five broad. It is of a crooked and irregular figure, and almost wholly encompassed by mountains, presenting several picturesque and beautiful scenes.

Lake Como is about thirty miles in length, but less than three at its greatest breadth. It lies in the midst of mountain scenery, and separates into two branches towards the south. It is celebrated for its delightful and romantic scenery. Like Maggiore, it is connected with the city of Milan by a canal. Near Tarno, on its banks, there is an intermitting spring; and above that place are the caves of Verena, which discharge great quantities of water during the summer months.

LECCA is situated east of Como, with which it is connected, and, like those already described, its bed is formed by a hollow in the mountains. Its length is fourteen miles, and its breadth four or five. Lecca is traversed by the river Oglio, which issues from its southern extremities; and its centre is adorned with a large and fertile island. The small but beautiful Iseo is less than the others, but it participates in their Alpine character and delightful scenery.

These are succeeded by the noble LAGO DI GARDA, which is more than thirty miles long, and about eight broad. It stretches from north to south, and is diversified by several small islands, promontories, and peninsulas; one of which contains some ruins, supposed to be those of *Sirmis*, to which Catullus was so much attached. The wide expanse of this lake, with the agitation of its surface by the slightest wind, causes it to resemble an arm of the sea; while the surrounding banks, which are exposed to the south, and protected on the north by high mountains, are covered with vines, olive, fig, lemon, orange, and other fruit-trees. The scenery is romantic and beautiful.

This lake abounds in fish, especially that species called *Carpiano*, thought by Linnæus to be a species of salmon. It is of an exquisite flavour, and held in such estimation in all parts of Italy, as to form a lucrative article of traffic. Its waters are said to possess the property of bleaching in a peculiar degree.

As the Austrian empire stretches through such a wide space, and embraces such a varied territory, its CLIMATE and temperature must be subject to an equal variation. At Vienna, though less than 400 feet above the level of the sea, the medium annual temperature is about 51° of Fahrenheit. At Gratz, a degree further south, the medium is only 49°, the elevation being nearly 700 feet. Salzburg, which is situated near the western frontier, and in the vicinity of the Alpine range, has an average temperature of 47°; while at Prague, two degrees further north, the thermometer rises to 48°.

In point of climate, the Austrian dominions may be divided into three regions. The southern region comprises the provinces on the confines of Italy, with part of Croatia, and stretches from 42, to 46 degrees of latitude. The olive, the myrtle, the vine, the fig-tree, and the pomegranate, grow freely here; and the middle of winter resembles the month of March a few degrees further north.—The second region extends from the 46th to the 49th degree, and comprises Austria Proper, a great part of Hungary, with a portion of Moravia and Bohemia. The olive is no longer found in this region, but vines and maize thrive in favourable situations. Winter lasts between three and four months; the spring is mild but rainy; and the summer warm but variable. The climate is salubrious, except in the neighbourhood of the marshes, where the miasma often prove fatal to strangers.—The northern region comprises Galicia, part of Hungary, a great portion of Bohemia and Moravia, with the whole of Austrian Silesia. Winter here assumes increased severity, and lasts about five months. Grapes, and other delicious fruits,

no longer come to maturity; but the summer heats, particularly in the vallies, is often greater than in England.

The extensive plains, the numerous morasses, and uncultivated districts, of Hungary, render the air less salubrious than in most other parts of the empire. Offen is situated about one degree and a half further south than Paris, yet the mean temperature of the coldest month is about 8° less at the former place than at the latter. The Hungarian summer, on the contrary, is hotter than at Paris. At this latter city, the mean temperature of that season is about 66° ; but at Offen it is 70° . In 1811, the mean summer temperature at Offen was 76° ; a heat usually experienced at Rome, in latitude $41^{\circ} 53'$. The variation of the temperature between night and day, however, has been found to be less at Offen, than either in Switzerland or at Paris. The plague sometimes visits the south-eastern parts of Hungary, and spreads its baneful influence over those regions which border on the confines of Turkey, whence the contagion is usually imported.

The SOIL of the Austrian territories includes almost every species, from the most barren to the most fertile. The basins of the Po, the Danube, and of some of the other large rivers, are scarcely to be surpassed in fertility. Most of the lower parts of the country, except where they are occupied by morasses and wastes, are fertile; yet sandy plains are found which are scarcely adorned with a vestige of vegetation.

If the whole surface of the Austrian empire were divided into 100 equal parts, then the productive soil of all kinds would occupy seventy-nine of these parts, and the *waste lands*, including lakes, morasses, mountains, rivers, and the ground covered with buildings, the remaining twenty-one parts. Again, if the productive soil be divided into 100 parts, these are employed nearly in the following manner.

The land in tillage would occupy.....	43 of those parts
The Meadow lands are equal to.....	9
The Commons which support cattle....	9
The Land employed in vineyards.....	2
Gardens, Orchards, and Nursery grounds	2
Forests of all kinds.....	35

100

Many of the mountains, and other parts of the Austrian empire, are clothed with luxuriant forests, in which almost every species of timber grows to a great size. The following account of one of these, visited by Dr. *Bright*, in Hungary, affords a fine specimen. "The forest of Belevár, which we now entered, is one of the finest in Hungary. It is situated on the Drave, and consists chiefly of different species of oak, intermixed with a variety of other forest trees, and amongst them a considerable number of beech and maple. The trees are the most luxuriant I ever beheld. Thousands of oaks which, when measured several feet above the root, are more than seven feet in diameter, continue almost the same size, without throwing out a branch, to the height of thirty, forty, and fifty feet, and are still in the most flourishing and healthy condition."

Austria not only supplies inexhaustible stores of timber, for national consumption, but vast rafts are annually floated down the rivers, for the use of other countries. The same judicious traveller makes the following remarks, which present clear ideas of the importance, the general appearance, the extent, and the value of these sylvan stores. Having referred to their value, as producing articles of domestic utility and commerce, he observes,

"Above all, however, the forests are of importance, as affording pasture for the cattle during the summer, when the sun is very powerful. At this season,

almost all the cattle of the estate are driven into them, and remain under keepers of different descriptions for three or four months. Thus, in the forest of Belevár, there are above 700 horned cattle, kept for breeding; about 150 horses, and large droves of swine, and flocks of sheep. With respect to the general features of these forests, they vary very much, sometimes presenting deep labyrinths of wood, intersected by paths, worn by herdsmen and their flocks, but requiring most experienced guides to conduct the traveller through their mazes; at others, affording magnificent grove scenery, and opening like a wooded park, with trees grouped in beautiful variety by the unassisted hand of nature. The herbage was luxuriant wherever an opening amongst the trees permitted the partial influence of the air and sun; and amidst the numerous flowers which were bursting into blossom, the white asphodel, growing in rich clusters, formed a prominent and beautiful feature.

"I have already spoken of the great importance of the forests in Austria and Hungary, and of the attention which has been paid of late years to their preservation. The whole land occupied by forests in the Austrian monarchy, is estimated at 24,000,000 joch, each about an English acre and a half, of which Hungary alone has 8,900,000, and in Galicia, above 30,000 joch, of forest, in some cases, belong to a single estate. In Hungary, the most extensive are found in Gömör, Weszprim, Beregh, Unghvar, Marmaros, and Liptau counties, and also in Croatia. The forest of Belevár is perhaps as noble an example of these wild tracts as any which Hungary produces, and, in various points of view, affords an instructive illustration of the condition of the Hungarian forests. It points out in a particular manner the almost insurmountable difficulties of deriving any thing which approaches to the just value of this fine timber, owing to the imperfect communication both by land and water, which obliges even the richest and most powerful proprietors to neglect their forests, or induces them to employ the finest timber in purposes, for which very inferior materials would be perfectly adequate."—*Dr. Bright's Travels.*

AGRICULTURE is still but imperfectly understood, and still more imperfectly practised, in the Austrian dominions; and consequently the annual produce is much less than the country is capable of yielding. Considerable attention, however, has, within a few years, been paid to this subject, by the Austrian government. But the deficiency of enclosures, with the want of a better mode of tenure, and a more intimate intercourse between the proprietor and occupier, as well as of greater skill and capital in the cultivator, have rendered most of its measures abortive, and caused improvement to be very slow in its progress. Such has been the influence of these causes, that the fertile province of Austria Proper does not yield sufficient grain for the supply of its own population. In other parts, as Galicia and Hungary, which consist chiefly of extensive plains, grain of various kinds is raised for exportation. But this arises more from the scantiness of the population, and the smallness of the domestic consumption, than from the abundance of the crops. The state of cultivation in Hungary, for instance, is sufficiently evinced by the prevailing practice of treading out the corn by horses and cattle, and preserving it in holes in the ground instead of granaries. Hungary is almost wholly an agricultural country, and though great exertions have, within a few years, been made by several extensive land-owners, for its improvement, yet they seem to have had little influence beyond the estates on which the experiments were made.

The usual course of Hungarian crops is; the *first* year wheat, or rye, sown in winter; *second* year, grain, of various sorts, sown in spring; *third* year, fallow; *fourth* year, winter grain; *fifth* year, spring grain; and *sixth* year, fallow

with manure. Maize is one of the most productive crops. It is planted in April, and reaped in September or October, and yields about thirty-fold, while other crops seldom produce ten-fold. The land is ploughed very shallow, and the seed is all sown broad-cast, except the Maize, which is sown by women. These follow the plough, turn back a little of the mould with a hoe, drop a few seeds, and replace the earth. In the Austrian territories, near the banks of the Po, the soil is extremely rich, and agriculture more advanced than in the other parts of the dominions. This empire embraces all the vegetable productions that contribute to the support, or administer to the luxuries, of life. Austria Proper yields corn, wine, and fruits, in tolerable abundance. Bohemia produces all kinds of grain, pulse, hops, flax, hemp, and fruit, with culinary vegetables in great plenty. Saffron and wine are also included. The productions of Moravia are similar to those of Bohemia; but Silesia wants the vine and some of the more delicate fruits. Grain, flax, hemp, rape-seed, and various fruits grow in Galicia. Among the last are grapes; but the wine made from them is of an inferior quality. Besides the common kinds of grain, Hungary produces millet, maize, and rice, with wine and a variety of excellent fruits. Some of the most favourable parts of Carinthia and Styria afford many of the common species of grain with the fruits of Italy, as well as hemp and flax, which are extensively cultivated. The southern vallies of Carniola produce oil, and excellent wine, with many fruits, besides wheat, maize, millet, and the best flax in the Austrian dominions. Chesnuts and walnuts are grown in abundance, as many parts are covered with whole forests of these trees. The provinces beyond the Alps yield all the rich productions of a southern clime; and are in some places much better cultivated than the other districts of the empire. Among these are oranges, lemons, olives, peaches, figs, mulberries, and other fruits that require the augmented influence of the solar beams, to bring them to maturity. Tobacco is likewise cultivated in many parts of this empire. The Italian states and Tyrol, produce more than two million pounds of silk, and employ about 400,000 persons in this branch of industry.

From a calculation made by M. *Blumenbach*, in 1816, it appears that the quantity of arable land in the Austrian dominions is about 43,582,000 English acres. Allowing one-third for fallow, there remains 29,054,700 productive acres. The annual produce of various kinds of grain has been stated at 360,000,000 Winchester bushels; which is therefore about 12·4 per acre. Such is the state of Austrian agriculture! For the documents from which these results are taken, we must refer to CHAPTER IX.

The same author has also calculated the extent of the land dedicated to the culture of wine in the Austrian territories, at 2,324,660 English acres. The produce he states at 493,109,565 English gallons; or about 212 gallons to each acre. See the CHAPTER above referred to.

“Schwartner has estimated the annual vintage of Hungary, at 18,000,000 eimers, (each equal to 15 English gallons) which is more than one half of the whole vintage of Austria and its provinces, estimated by *Blumenbach* at 32,873,971 eimers. The vineyards immediately round Offen yield, in tolerable years, 230,000 eimers; those around Pesth, 30,000; the district of Tokay, 160,000; the vineyards of Smyrmien, 560,000, and 70,000 eimers of spirit distilled from the grapes, after the wine is drawn from them. Groswarden yields 200,000 eimers of white, and Erlau an equal quantity of red wine. The vineyards of Werschetz, in the Banat, give 80,000 eimers annually; the Honther Comitatus 40,000; the vintage around the town of Cedenburg, amounts to 32,000; that of Rusth, to 9000 eimers; and thus we might proceed, till we had fully substantiated the assertion of Schwartner.”

The whole value of the vegetable produce of this empire has lately been esti-

mated at £68,500,000, which is a small sum in comparison with its extent, but for which the low state of its agriculture will account.

Waste lands still abound in various parts, and these have also been computed at 1174.9 German, or 25,271 English square miles, independently of the space occupied by rivers, buildings, and roads.

The domestic ANIMALS, such as horses, cattle, buffaloes, sheep, swine, asses, mules, and goats, are common. Great and successful efforts have been made by the Austrian government, and distinguished individuals, to improve the breed of horses, by the introduction of Arabian and other superior species. The breeding stud of the Emperor, was established at Mezöhegyes, in Hungary, in 1783, on four commons, containing 63,000 English acres of land. It occupies nearly 500 men, and furnishes the Austrian army with, at least, 1000 horses annually, besides those designed for all other purposes. Thousands are also annually bred in the forests of Hungary. Those of the national breed are small; but in Bohemia and other parts, they are strong and spirited.

Less attention has been paid to the improvement of the cattle. In many places they are of a good kind, and almost all of a blueish slate colour. The native Hungarian breed has a great resemblance to the wild white kind, once common in this country. They are large, vigorous, and active, of a deep white colour, and with very long horns. The oxen are most excellently adapted for the plough; for, with all the other qualities of the ordinary ox, they unite a very superior degree of activity. These animals are suffered to range over the forests, attended by men and dogs, during the greater part of the year. When the snow covers the ground, they are brought to enclosures in the villages, and on the farms, and chiefly fed with straw, while at other times they are not supplied with any thing, except a small quantity of salt, mixed with a little sulphur. The cows are kept merely for breeding, and the young cattle separated from them once a year.

On passing from Hungary to Styria, the tall white cattle are exchanged for a more perfect breed, with short horns, and of different shades of brown. It is almost impossible to estimate the Hungarian flocks and herds correctly; but in other parts of the Austrian dominions, an authentic statement, published in 1813, gives the following numbers.

	<i>Oxen.</i>	<i>Cows.</i>	<i>Horses.</i>
In Bohemia	257,779	617,476	119,122
Moravia and Silesia	54,368	285,551	126,124
Austria below the Enns..	87,744	185,370	56,475
Austria above the Enns..	53,504	117,102	17,158
Styria	99,086	217,909	49,892
Carinthia	29,083	40,306	9,431
Galicia	340,168	622,151	238,790
	<hr/> 921,732	<hr/> 2,085,865	<hr/> 617,424

The whole number of domestic stock in the empire has lately been stated as follows: viz. Horses 1,800,000, horned cattle 10,000,000, and sheep 12,000,000. The number of oxen, cows, and horses, had diminished since the former estimate. Great attention has likewise been paid in Austria to improving the breeds of sheep. As the wool is the chief object of value, the great improvement has been accomplished by the introduction of Spanish sheep. In this the emperor took the lead, in 1773; but it is only since the commencement of the present century that the exertions of the land-owners have seconded the laudable attempt of the sovereign. Hungary is the territory which feeds the largest flocks, and it is there that improvement proceeds with the greatest vigour. Much of the wool imported into England,

as Saxon, is the produce of the Hungarian flocks, the number of sheep in which has recently been estimated at 10,000,000. Of these, about 6,000,000 are of the improved breed. In 1813, the number of sheep in other parts of the Austrian empire, was stated as follows: viz.

In Bohemia	1,090,241
Moravia and Austrian Silesia.....	438,501
Austria below the Enns	352,021
Austria above the Enns	108,126
Styria	156,971
Carinthia	80,459
Galicia.....	413,308
	<hr/>
	2,669,627
	<hr/>

This number exceeds that of the preceding year by 90,228; which is an immense increase for so short a period. Swine are objects of great attention in the forests of the Austrian territories, particularly in Hungary; and such is the traffic in these animals, that 278,415 are said to have passed the Turkish Hungarian borders, in 1802, to be fed in the forests in that part of the country.

Bees have of late excited much interest in this empire; and strenuous exertions have been made by the government to call the attention of the people to this source of emolument. *Bisinger*, an Austrian writer, states the produce of the bees, in 1807, at 6000 centners (each about 122·5 avoirdupoise lbs.) of wax, and 100,000 centners of honey. The quantity of the former was, therefore, 328½ tons, and that of the latter, nearly 6011½ tons.

Among the wild animals of Austria, are the wolf, the boar, the lynx, the chamois, the marmot, and several others that range over the extensive forests and uncultivated regions of the European continent. The feathered tribes are most of them common to the other countries of Europe. Bustards and pelicans are numerous; and Austria has some peculiar species of the falcon. The mountains of Carniola are frequented by some kinds of birds not often found in other places.—The great rivers abound with fish, some of which are obtained only in the Danube and a few other streams, particularly a small kind of salmon, which is so great a delicacy, that it is included in the list of presents from one prince to another. The *Fogas* of the Platten See is also a peculiar species of fish.

The mountainous character of many parts of the Austrian dominions affords a favourable idea of its MINERAL riches, which are more varied and important than in most other states of Europe. The mines in the northern districts of Hungary and Transylvania are the most interesting, though there is scarcely a province that does not afford advantages of this kind. Near Krennitz, in Hungary, in a branch which descends from the Carpathian chain, are mines of gold and silver; and about twenty English miles south of these, in the vicinity of Chemnitz, are rich mines of the latter metal. These places owe their flourishing state to the mineral wealth of the district, and are denominated mining towns; the latter is the principal. Besides the precious metals, the adjacent country abounds in copper, antimony, coal, salt, and alum. The most productive mines of copper, are at Schmelnitz and Herregrund. Natron is likewise obtained from a lake on the borders of Transylvania. But a mineral which is peculiar to Hungary is the *Opal*, a gem held in high estimation in the east. The mines from which it is obtained are situated near Kzerweriza, east of Kremnitz. These gems are found at the depth of five fathoms, and are of different kinds, from the semi-opal to those of the finest and most valuable quality. The Transylvanian mines are numerous.

and productive. The Najiag, north-east of Deva, yield the grey gold-ore. They are the richest, and are worked with great care. The white gold-ore is also found in the hills, a few leagues north of Harlsburg. There are likewise gold mines west of this town, in the neighbourhood of Zalathna, and in the northern parts of the same province are those of Kapnich and others. Fresh gold mines have lately been discovered in this principality, and are likely to be very productive. The Hungarian mines of iron and salt appear to be inexhaustible. The mines of Bohemia are of very ancient date, gold, silver, copper, and lead, having long been obtained in that kingdom. Tin is found at Zinwald, (tin forest) and other tracts towards the western confines of that country. The garnets of Bohemia are the most beautiful of the kind. The iron of Styria, yields the finest steel; great quantities of which are exported to England. Quicksilver is also one of the mineral products of the Austrian empire.

The whole produce of the Hungarian mines has been estimated at 2100 marks of gold, each weighing eight ounces; 93,000 marks of silver, of the same weight; with 62,000 centners of copper; 44,000 of iron; and 23,000 of lead. Including those who are actually engaged in the mines, and those who are connected with smelting and preparing the metal, these mines are said to give employment to about 35,000 persons; more than 10,000 of whom belong to the districts of Schemitz and Kremnitz. In the vicinity of the first of these places there are twelve royal mines, besides those belonging to individuals; and which are stated to yield 150lbs. of gold, and 12,500lbs. of silver annually.

Iron is the principal mineral product of Styria; and the most valuable mines of this metal are near Eisenartz, a short distance from Leaben. *Bisinger* calculates the annual produce of the Styrian mines at 300,000 centners, and that of Carinthia, at 200,000. Styria also yields lead and copper, with the former of which a small quantity of silver is mixed.

Respecting the *salt-works*, which are in that part of Styria which borders on Salzburg, a recent traveller observes, "The salt is obtained in two different modes, either as rock-salt, in square masses, cut from the solid walls of the pit, or when the salt is less pure. It is procured by introducing water into chambers, formed for the purpose, where it remains several months, till it forms a brine of sufficient strength, which is then drawn off into a reservoir, whence it is conducted into evaporating pans, and the salt collected. This process is carried to a great extent, and in the salt mountain of Ausee there are no fewer than ninety sets of chambers, each consisting of 800 or 1000, and each of them containing 1800 Vienna eimers. The elevated situation in which the salt occurs, gives facility to the process of drawing off the brine, as the entrance of the mine is more than fifty toises above the level of the sea. The annual produce of the Ausee salt-mine exceeds 150,000 centners."—*Bright's Travels*.

In enumerating the mineral riches of Styria, the excellent marble which is found in the extensive lime districts, must not be omitted. The produce of the quarries near Lambrecht, Elsenau, and Kapfersten, deserves particular attention. The annual value of the whole mineral produce of this empire has lately been estimated at more than £6,000,000.

A country so abundant in minerals cannot be deficient in MINERAL WATERS. Those of Baden in Austria Proper; of Toeplitz and Carlsbad, in Bohemia; and of Erlau, Buda, Schemnitz, and others in Hungary, are much celebrated in most parts of the continent, and particularly in Germany. The mineral springs in the latter kingdom indeed form a leading feature in its natural history, and are said to exceed 200. The spring of Füred, on the borders of the Balaton lake, is one of the most frequented in Hungary, and the waters are sent to all parts of the empire.

CHAPTER III.

Principal Cities—Towns and Buildings.

IN describing the principal cities and towns of this great empire, VIENNA, the capital, deserves the first notice. This city is situated on a plain, where the small river *Vien* falls into the Danube. There the latter river divides into several channels; on the southern stream of which the capital is built.

“ It consists of two parts perfectly distinct. The city, properly so called, is surrounded by walls, bastions, and a dry fosse, forming a complete fortification; and the suburbs, which are surrounded by a line of circumvallation, with barriers at all the openings, and are separated from the city by the *Glacis*, and an intervening space, entirely free from buildings. The circuit of the inner fortification is less than three miles, whilst that of the external line exceeds twelve; including in this line of the works, which occupies about two-thirds of the whole, and the natural line, formed by the branch of the Danube, which, touching at one part of the walls of the city, may be considered as forming one-third of the surrounding defence. A part of the suburbs is cut off by this branch of the river, being situated on the opposite side, and occupying part of a large island, formed by the divided stream. The whole population of this capital amounts to about 270,000, of which 200,000 reside in the extensive suburbs.”—*Bright's Travels*.

Vienna is situated near the site of the ancient *Vindobona*, and towards the eastern confines of Germany. It has a just claim to antiquity of foundation, and its history is crowded with eventful periods; but it did not attain distinction till the 12th century, when the Dukes of Austria fortified it, and made it their residence. On the north and east of the city, the country is level, but on the other two sides it rises into hills richly cultivated, and adorned with woods and vineyards. To form a correct idea of the present state of the Austrian capital, which is the most interesting object in Germany, the author above quoted observes, “ the reader will at once form to himself the picture of antiquated buildings piled up in successive stories, and of streets narrowed to the utmost by the trembling people who sought protection within the walls; and he will anticipate a town irregularly constructed by frequent additions, yet ornamented by many substantial public edifices, arising under the comparatively quiet and peaceful reigns which preceded that of the present monarch. In the suburbs he will look for a more regular and open plan of buildings,—for houses less elevated,—for gardens and places of recreation,—for the work-yards of artificers,—and the seat of manufactures;—and all this he will find. In fact, the vicinity of Vienna and its suburbs, as it relates to the elevation of the buildings, approaches somewhat to the figure of a cone, of which the apex is formed by the steeple of St. Stephen's church, and the circumference of the basis by the external lines of fortification. The largest, highest, and best houses in the suburbs, are generally built in those parts which face towards the city, where are seen several fine streets, palaces of the nobility, and public institutions. The *Glacis*, and the area which is always preserved free from buildings, is nearly a quarter of a mile in width, and is a most valuable means of securing the health of the inhabitants.”

St. Stephen's church is evidently the most conspicuous of the public buildings which adorn this capital; and is not only an ornament to the imperial city, but

closely connected with the leading particulars in the history of the nation. On this subject a traveller who lately visited that capital has elegantly observed,

The building, to which the steps of a stranger are first directed, is the church of St. Stephen. Its beautiful spire, covered with fret-work, attracts his eye from a distance, while its roof, distinguished by the finest mosaic tiling, proudly towers far above the surrounding edifices. A late illustrious writer, the accomplished female who has preceded us in that path which we must all shortly tread, has very justly remarked, that this church is in some respect or other closely connected with every period of the history of Austria. The Princes who founded or adorned it sleep within its vaults, and the heroes who have defended, or the sages who have added lustre to the Austrian name, have obtained, as a last recompense, a resting place within its walls. The sounds of the great bell strike upon your ear; the very bronze which calls you to prayer, once battered the walls of the city; and the bones of the soldier, whose valour achieved its conquest, lie interred beneath the marble upon which you carelessly tread. The earliest historian of Austria fills the contiguous vault; and the marble tablet will inform you that philosophy, history, and poetry, united to display the understanding and talents of Joanes Cuspinianus, the friend, historian, and physician of the Emperor Maximilian the First. Even the Roman inhabitants of Vindobona have mingled their dust on this sacred spot; and the tombs of Publius Titius and of Conrad Celtes, in the adjoining cloister, display, in affecting emblems, the caducity of human life, and the proud yet fading trophies of genius and power.”—Dr. *Neale's Travels*.

The church of the Augustines, the imperial palace at Vienna, and that at Schonbrun, a short distance from the city, also deserve the notice of the stranger. Nor will the benevolent mind neglect the edifices dedicated to charitable purposes, or the literary man, those designed for the promotion of sciences and general knowledge. The former of these, unlike similar institutions in Britain, are either monuments of the paternal kindness of government to its distressed subjects, or of dying devotees towards the salvation of their own souls, rather than the genuine effects of a widely extended and christian charity, which, in its voluntary contributions, stamps such a peculiar impression on the benevolence of British institutions. The attractions of this celebrated capital have been thus summed up by the author last cited.

“Travellers of every nation seem to have vied with each other in proclaiming the many charms of this delightful capital, which surpasses in attractions all its German rivals. The beauty of its sylvan environs, the richness of its public collections, the attractions of its opera, theatres, and public amusements; the abundance and cheapness of its markets, the magnificence of its buildings, and the hospitality and affability of its inhabitants; all contribute to distinguish most pre-eminently the capital of the Austrian states. The commercial man might prefer Hamburg; the military parade of Berlin, possesses attractions for the soldier; the artist and mineralogist would probably tarry at Dresden; but he whose pursuits are the acquisition of general knowledge, and the charms of society, would abandon all those cities for Vienna. Every liberal pursuit may be here indulged, every taste cultivated and improved, knowledge and science acquired, and the moments, occupied by study or business, agreeably passed in the very best society. Is he fond of Gothic architecture? he may muse amidst the aisles and cloisters of St. Stephen's church, one of the finest specimens of art in Germany: Is music his delight? the orchestra of the Imperial opera will gratify him to the utmost: Do sylvan beauties please him? the retreats of the Prater along the banks of the Danube afford the finest ranges for picturesque excursions: Is painting

dear to him? the Imperial gallery offers him 1300 pictures of every school, from the infancy, to the very perfection of art: while the Imperial library will gratify his taste for study, and the collection of antiques, arranged by the science of a Winklemann, will instruct and accomplish him. He may study the art of war amidst the arsenals and fortifications of the city, and acquire, in turn, every science within a circle not exceeding the area of St. James's Park."

PRAGUE is the capital of Bohemia, and must be considered as the second city in the Austrian dominions. It is situated on the river Mulda, over which there is a good stone bridge. The fortifications of this city are of little importance, as it has been frequently besieged and taken. Many of the houses are built of stone, and the great number of Palaces and Churches give its general appearance a bold and imposing effect, which is increased by the town covering several hills, and containing many wide streets and fine gardens. Among the public buildings are the ancient palace, the cathedral, and numerous churches; but its chief ornament is its university. There is also a magnificent college, formerly belonging to the Jesuits. The population of Prague is about 80,000: nearly one-sixth of whom are Jews, who have a number of handsome synagogues, and are deeply engaged in the principal commercial transactions of the place. Relative to this city, which occupies so conspicuous a place in the history of Germany, Dr. Neale observes, "The name of Prague seems to have been recorded in characters of blood; the battles and sieges of which it has been so often the theatre, make it in a degree more familiar to one's imagination than most of the other German towns. Its aspect is forlorn and dreary; wide deserted streets, dirty Jews, and begging monks, ruinous palaces, and mouldering Gothic churches, are the first objects to greet a traveller's eye on his entrance. Prague derives its name from the bridge which crosses the Mulda, and which is 1800 feet long, and thirty-five broad, and consists of twenty-four arches. On the battlements are arranged thirty-two statues of Saints, and at each end is a high Gothic tower, of handsome architecture.—The cathedral is a fine old Gothic building, beautifully placed on the steep side of the western hill, overlooking the river and bridge, and the greatest part of the city. It suffered severely from the bombardment of the Swedish army during the thirty years' war, and the mischief then done still remains unrepaired. The university of Prague was founded by Charles IV., in 1347. It was the first in Germany, and was attended at one time by 40,000 students, who rushed in such crowds from the Lecture Rooms, that a bell used to be sounded a quarter of an hour before the classes were dismissed, to give notice to the inhabitants to leave the streets clear. But this university can now scarcely boast the attendance of 400 ragged boys, and desolation fills up the vacancies of a Metropolis, which once gave the law in morals, science, and politics, to the rest of the German empire. The arts still linger, but it is only to trace the relics of past magnificence, or to bewail the loss of those treasures of which their city was despoiled by the barbarous Swedes."—It is impossible to mention the name of this fallen city, and not call to mind those of *John Huss*, and *Jerome* of Prague, the successors of Wickliffe, the precursors of Luther, and the champion martyrs of truth; or to be insensible to "the glorious feelings with which the blind *Zisca* was inspired, who, rising, like a phoenix, from the ashes of Huss and Jerome, spread the vengeance of heaven over the kingdoms of those princes who, by suffering their safe conduct to be violated by the council of Constance, had become the cowardly accomplices of these legalized murders." The celebrated astronomer Tycho Brahé died at Prague in 1601.

PRESBURG is the metropolis of the kingdom of Hungary, and is situated on the left bank of the Danube, near the western extremity of the Hungarian terri-

tories. It stands about thirty five English miles below Vienna. Like that capital, the magnificence of the city is exceeded by that of the suburbs. It is pleasantly seated at the foot of a hill, on which the castle stands; and its climate is more salubrious than most of the other towns of Hungary. Presburg is a city of great antiquity. It is badly built; and the strength of the fortifications consists in a double wall and moat. Many of the streets are steep and narrow, and few of the houses good. The principal church is a Gothic edifice, supposed to have been built in the eleventh century. It has likewise a theatre; and in the middle of the town a public walk planted with trees. The manufactures are of little importance, and consist principally of oil, snuff, woollen goods, and a little silk. It contains a school for youth of the catholic religion; and one of the largest Lutheran establishments for education in Hungary.

The population of Presburg has lately been stated at 22,000. It is the residence of the vice-roy, and it was here that the peace between Austria and France, so humiliating to the former power, was concluded in 1805.

LEMBERG, the capital of Galicia, or Austrian Poland, is a large and handsome city, containing a population estimated at 30,000 individuals. "This city is situated in a hollow, bounded by low sandy hills; its walls are washed by the Pelten, a shallow stream, as slow, muddy, and putrid as the poetical cocytus itself." Owing to the numerous lofty towers and cupolas of the cathedral and other churches, with the high and massy appearance of the houses, built of free-stone, there is an air of grandeur and magnificence in the exterior of Lemberg, when viewed from a distance, which is not realized by a closer inspection.

Mr. James, in his late tour, observes, "the town of Lemberg struck us by its appearance, as singularly romantic and beautiful. It is embellished by a university, a large public library, a cathedral, &c. The private houses are extremely handsome and showy in the exterior, being decorated in the ornamental style, so much in vogue throughout Germany." In commercial importance, Lemberg is the first place in Galicia, especially since the building of Odessa, as it is the thoroughfare from that port, and others on the Black Sea, to Vienna. Its annual fair, which is one of the finest in Europe, also renders it a great commercial emporium. This prosperity has greatly increased its population, which has been doubled within the last century, and is now about 40,000; among whom are many Jews. Here, as in other parts of Poland, they are the chief agents in commercial concerns. Lemberg may be considered as their Holy City in Europe; for they have in this place one of the largest synagogues in the world, and capable of accommodating 10,000 persons. The library belonging to the university contains a good collection of books.

OLMUTZ is the ancient capital of Moravia, and is unpleasantly situated in the middle of a marshy plain, formed by the branches of the sluggish river Morava, which washes its ramparts. It is a strongly fortified town, containing many lofty and massy buildings, with about 12,000 inhabitants. Its strength baffled the forces of Frederick the Great, in 1758. General Lafayette and his companions were long detained prisoners in its citadel; and it had the honour of sheltering the imperial family of Austria after the battle of Austerlitz.

BRUNN, a much more important town, is in the same kingdom. It is considered as the present capital, and contains the government offices for the whole of the kingdom. It may justly be regarded as the Leeds of Austria. Several manufactures of fine woollen cloth and kerseymeres have been established there, and are now in a very flourishing condition. The town is well supplied with running streams, fuel, and other requisites for manufactures; and one of its largest establishments in the woollen trade, employs about 5000 persons. Brunn is also the

centre of the Moravian commerce, which is principally transacted by means of its four annual fairs, recurring at intervals of three months, and each lasting three weeks. The parochial church, dedicated to St. James, is noted for its handsome spire, covered with copper. The fortifications, which were once important, have been suffered to decay, and the ditches are converted into dye-works and tan-pits. The population is about 24,000.

PESTH and BUDA, or, as it is often called, OFFEN-BUDA, form almost one city, which is sometimes considered as the metropolis of Hungary. They are merely separated by the Danube, which is here seen in all its majesty, and over which an easy communication is formed by a bridge of 47 large boats, connected by chains, and covered with planks. The length of this bridge is about 300 yards. These two places are thus described by a recent traveller,—“Buda, the seat of the Hungarian government, and the residence of the Palatine, contains 30,000 inhabitants. Its situation is on the right bank of the Danube, commanding and majestic. The extensive fortress, which occupies a high rock, contains the palaces of the Palatine, and of several Hungarian nobles, the public arsenal and theatre, with many churches and streets, forming within itself a complete town. Round the foot of this rock, and along the side of the river, runs a street, while others, with gardens, surround it in different directions, and clothe the side of a second rocky eminence, called the Blocksberg, which hangs over the river at a short distance to the south, and on which the new Observatory is constructed.

“Pesth, the *Transacincum* of the Romans, occupies the left bank of the river. It is the seat of commerce, and contains nearly 33,000 inhabitants. It is built upon a plain, where it extends itself more and more every day, and is one of the very few towns on the continent which seems to have suffered little during the late periods of disturbance. Although we are not struck by any magnificence, we are certainly gratified by a considerable display of good streets and handsome houses, besides many churches and buildings belonging to different religious orders, each generally adorned with two steeples.”

Pesth contains several public buildings and valuable institutions. Among the former are the Grenadiers Caserne, built by Charles VI., and a large structure commenced by the emperor Joseph, in 1786, for an unknown purpose. The theatre is likewise a conspicuous building. Among the public Institutions, are the National Museum, the University, and the Observatory. The first is of recent establishment, only dating from 1806. Large accessions to the books, coins, and subjects of Natural History of Hungary, have since been made, and the institution promises to be highly serviceable to the country. The University generally contains six or seven hundred students, chiefly Hungarians and Transylvanians. It has an excellent library, comprising about 50,000 volumes of approved works. A Clinical hospital, and a Botanical garden, are also connected with the university.

DEBRETZIN is the principal commercial place in the eastern part of Hungary, and one of the most singular towns in Europe. It is situated on an immense plain, and though formed almost entirely of cottages, contains 40,000 inhabitants. It is a true Hungarian village, increased to the magnitude of a city, without having adopted the usual dissipations of one. There is, however, a large reformed Calvinistic college, with about five or six hundred students. Most of the houses are covered with thatch, which exposes the town to destructive fires; and in 1811, 2000 of these habitations were reduced to ashes in a few hours.

A great fair is held here every three months, at which extensive commercial transactions are carried on. The singularity of this town renders the following description of *Graf Bathany*, an Hungarian nobleman, peculiarly interesting.

“Singular as it may appear, scarcely any of the houses in this great city are above one story in height, and few are built on any regular plan. In summer you must wade through sand, and at other seasons through deep mud, even when you keep to the streets and public paths. The blank walls, the dark retail shops, the tobacco-pipe sellers, the smokers, and the dogs, the stillness which reigns in the midst of the daily business, and the earnestness which sits upon every countenance, all bring to the mind a lively recollection of the dwellings of our Eastern neighbours. At the first moment you are tempted to believe that all the women are purposely concealed. The black handkerchiefs with which they cover their heads, resemble hats, and their blue pelisses, approaching to the uniform of the Hussar, almost disguise their sex. The men are covered with large cloaks generally of a dark blue, and look under their broad hats as from beneath an umbrella, and the appearance of the multitude, in other places so varied, is here uniform and melancholy.”

The towns of SCHEMNITZ and KREMnitz deserve notice as the principal places in the mining district.—SCHEMNITZ is venerable, on account of its antiquity, and is situated on a steep declivity, in the bosom of a bold mountainous country. The town contains many good houses, shops, and coffee-houses; with a population of about 8000 inhabitants, most of whom are employed in the mines, or in refining the metals, which is the chief business of the town and its neighbourhood.

KREMnitz is likewise situated in the midst of mountains, but overlooks a wide and open valley. This town is less than Schemnitz, and has altogether a forsaken air. It consists only of a few houses within the walls; but has a greater number in the suburbs. One of the principal buildings is the mint, where the gold and silver obtained in the vicinity are refined and coined. There are some good streets and detached houses without the walls; Kremnitz contains four churches, one of which has a highly ornamented interior.

EDENBURG is a large town situated on the west side of the Neusiedler lake, and derives its chief importance from its convenient situation as a market for the produce of Hungary. Both the corn and cattle markets are large, and the number of swine sold here is greater than in any other town in the country. It amounts to 80,000 yearly. Edenburg is also celebrated for its manufacture of broad-cloth, besides some other manufactures, and a population of nearly 12,000 people.

GRATZ, is the capital of Styria, is situated in a romantic vale, on the river *Muhr*, and is surrounded by mountains. Some parts of the town are well built. It has several ornamental churches, and a good theatre. Being the seat of the Styrian government, which is a branch of the general administration of Austria, it becomes the residence of many of the Nobility, and some Hungarian families make it their winter abode.

Gratz is rich in charitable institutions, and in establishments for education. Among the former is a very comprehensive institution for the care of the poor, divided into seven distinct departments. But the most interesting of these institutions is the *Joanæum*, which derives its name from the Archduke John, by whom it was founded. Its object is the diffusion of general knowledge among the inhabitants of the Styrian capital, and the investigation of the various resources, both natural and political, possessed by that country. Besides the Gymnasium, there are other public schools, with a Lyceum that bears most of the characteristics of a university, with a Library containing 100,000 volumes. Gratz was a fortified town, but great part of the walls have been demolished. It has several manufactures, and an estimated population of 35,000 inhabitants.

TOEPLITZ, situated on the north-western borders of Bohemia, and celebrated for its thermal springs, “is, like Bath in our own island, the summer resort of the fashionable valetudinarians of Saxony and Bohemia, who flock thither in multi-

tudes, to lounge, bathe, and gamble. Its waters are said to have been in good repute for the cure of gouty, rheumatic, and paralytic complaints, for upwards of ten centuries; having been discovered some time about the year 762; the springs are seventy-seven in number. The only peculiarity of these springs is the large portion of muriate of lime which they hold in solution. The heat varies from about 98° to 110° of Fahrenheit. The environs of Toeplitz are magnificent. The valley in which it stands is about six miles in extent, surrounded on all sides by screens of lofty mountains, of the most sublime character of beauty, in some parts covered with fine forests, in others gilded with corn-fields, or richly coloured with purple heaths, from which the naked pinnacles of rock rise towards the sky. Scattered in the hollows around are some beautiful villages. Hanging over the town is a rocky mount, crowned by a ruined castle, which was one of the strong holds of that mysterious and unfortunate order, the Knights Templars.”—*Neale's Travels*.

Before passing the grand Alpine boundary, which divides the Italian from the German part of the Austrian dominions, a few more towns deserve a brief notice. LINTZ is the capital of upper Austria; and SALTZBURG is situated in the vicinity of the most productive salt-mines within the Austrian empire. CLAGENFURT is the capital of Carinthia. It is a small well-built town, containing some broad streets, and adorned with several squares, churches, and convents. It contains several useful institutions and manufactures, with a population of about 10,000 inhabitants. LAYBACH, situated amidst the mountains of Carniola, INNSPRUCK, on the banks of the Inn, and CARLSTADT, the chief place in Croatia, are all good towns. TROPPAU, in the Austrian part of Silesia, has a population of about 12,000 inhabitants. CLAUSENBURG is the capital of Transylvania, and is situated in a romantic valley. It was a town in the time of the Romans, and formed the sixth colony of the Emperor Trajan. Its population is now estimated at 15,000. HERMANNSTADT is another large town in the same country, with about 16,000 inhabitants. It is situated on a fertile plain, and was the ancient capital.

TRIESTE, on the southern side of the Alps, was for a long period the most important place in Austria, as being the only port belonging to that empire. It is situated on a gulf of the Adriatic, and is an ancient and strong town, standing on a declivity which is crowned with an old castle. The harbour is spacious, but exposed; and the trade in oil, fruit, wine, salt, velvet, liquors, &c. is very extensive. The town and territory of Trieste, were ceded to France, in 1809, but were restored by the congress, in 1814. The population is about 30,000. Another of the Austrian ports is FIUME, situated at the extremity of the gulf of Juarnero, in the upper part of the Adriatic, and a few miles south-east of Trieste. It consists of two parts, the old, and new, town, the latter of which is well-built. The harbour is commodious, but difficult of entrance; and a good trade is carried on, particularly in the export of corn, wood, and tobacco, and the import of rye, sugar, spice, salt, &c. for the supply of the adjacent district. Fiume was in possession of the French from 1809 to 1813, when it was recaptured by an Austrian and British force, and now forms one of the chief ports of the former monarchy. Its population is about 12,000.

VENICE, the capital of the ancient Republic of the same name, but now an Austrian town, stands on a great number of low islets near the upper extremity of the Adriatic, and is one of the most remarkable cities in Europe. It was founded about the beginning of the fifth century, by some Italians, who had fled from the desolation spread over Italy by the Huns, and appears to float upon the surface of the waters, while its domes and palaces rise majestically above them. It was long the chief maritime power in that part of Europe; and by the vigilance and enterprising spirit of its citizens, it accumulated immense wealth. But, its commercial

greatness has declined, its excellent manufactures have been rivalled by those of other states, and its population is now reduced to about 150,000. Instead of carriages, the Venetians make use of boats, called gondolas, and visit all parts of the city by means of canals. Impressions of magnificence and grandeur, are those that prevade the mind of a traveller on his approaching Venice. "Its churches, palaces, and public buildings of every description (says Mr. *Eustace*,) and sometimes even its private edifices, have in their size, materials, and decorations, a certain air of magnificence truly Roman." Among the churches, St. Mark, St. Zeminiano, and several others deserve the stranger's attention. The ancient Ducal palace, or residence of the *Doge*, is a vast fabric, solid in its structure, and venerable in its appearance; and has, by some persons, been esteemed one of the finest specimens of Gothic architecture in Europe. The public Library is a magnificent building, enriched with a great variety of books and numerous Greek manuscripts. The noted *Rialto* is a bold arch across the principal canal. The halls and chapels of various commercial companies are noble structures, decorated with many master-pieces of the almost life-breathing pencil. Venice affords one of the most striking examples of the power of industry, and the influence of local circumstances to be found in the history of nations. It is, perhaps, the most magnificent city that was ever built in a situation that possessed every thing to attract the curiosity of the traveller, but nothing sufficiently powerful to render him a resident. It has still a good commerce, and some excellent manufactures of mirrors, velvet, scarlet cloth, and embroideries.

MILAN, the capital of the late kingdom of Italy, was founded by the Gauls about 584 years before the Christian era, and, for several ages, was the seat of the German emperors in Italy, and subsequently the residence of the Austrian governors. It is situated on the Olona, between the rivers Adda and Tesino, with each of which it communicates by means of canals. Milan is extensive and magnificent, and has a population of 125,000 individuals. The cathedral is the finest in Italy, except St. Peter's, and is an immense fabric, wholly built of white marble. It is 500 feet long, 200 broad, and 400 high, and is supported by 50 columns, each 84 feet in height. Milan has also a large and strong citadel and arsenal, with a variety of manufactures. The celebrated Ambrosian library contains about 60,000 printed volumes, and 15,000 manuscripts. The Jesuit's college was converted into a university, and endowed by Maria Theresa, in 1766. There are also various other institutions, dedicated to the noble purpose of education, with academies for the sciences and fine arts; and an institution for the promotion of agriculture and the improvements of mechanics. The trade of Milan is considerable, and the manufactures numerous, but those most worthy of notice are silk and velvet.

MANTUA is one of the strongest cities in Europe, and the capital of the Mantuan territories, which now form part of the Austrian empire. It is situated on the north side of the Po, on a lake formed by the river Mincio. It is one of the oldest cities in the world, exceeding the antiquity of Rome by three centuries. The streets are broad and straight, and the houses well built. Mantua contains several master-pieces of art, and, among others, the cathedral built by Julio Romano. The other buildings most worthy of notice are the palace which was inhabited by the ancient Dukes, the hall of justice, the church and library of the Franciscans, and the various buildings connected with the university and the imperial academy. Mantua was long renowned for its manufactures of silks, some of which yet remain. Its population is about 32,000. It was taken by the French, in 1797, after a siege of eight months. Mantua was the birth-place of Virgil.

VERONA is a large and celebrated city, beautifully situated on the banks of the Adige, which is crossed by three handsome bridges, and partly ascending a

gentle acclivity, which forms the last swell of the Alps. Many of the streets are narrow and crooked, but others are broad, regular, and handsome. It is noted for a magnificent amphitheatre, built by the Romans, and capable of accommodating 25,000 persons. Some fine palaces and religious structures also adorn the city, among which the chapel of St. Bernardino, and the painted cloister of St. Zeno, have been much admired. The Museum is an elegant building, and contains a good collection of antiquities. The population of the city is about 55,000. Cornelius Nepos, the elder Pliny, the architect Vitruvius, and the painter Cagliani, were all natives of Verona.

PADUA is an ancient place, with a noted university. Though the decline of this city has been the frequent theme of travellers, and it has been often remarked that grass grows in many of the streets, yet Mr. *Eustace* observes, "it is still a great, and in many respects a beautiful city, as its circumference is near seven miles, its population about 50,000 persons, and, notwithstanding the general narrowness of its streets, many of its buildings, both public and private, are truly magnificent." The abbey and church of St. Justina are both fine specimens of architecture; but the university, which could once enumerate 18,000 individuals within its precincts, does not now contain more than 600 students. Padua has some manufactures of cloth; and the town-hall contains a cenotaph of *Livy*.

PAVIA is a large ancient city on the Tesino, with about 26,000 inhabitants. It was the residence of the kings of Lombardy, and is noted for its university, the defeat of Francis I., of France, in 1525, and the birth of *Cardan*, the celebrated physician and mathematician, in 1501.

BRESCIA is a large city, standing in a beautiful plain on the Garza. It is a place of great antiquity, as it was burned by the Goths in 412, and soon afterwards nearly destroyed by Attila. It was subsequently visited by a series of calamities, but still contains a population of nearly 50,000 inhabitants. Its cathedral is a large edifice, built of white stone. There are twelve other churches, and not less than thirty convents. The town is surrounded by walls and ditches, and adorned with a variety of fountains. Its environs present scenes of extensive beauty.

TRENT is a venerable but handsome and populous town, situated on the Adige, containing many good houses, streets, and public buildings, and a population of about 10,000 inhabitants. The bishop's castle, the cathedral, a college and several convents, are among the public buildings. It was anciently a free imperial city, the capital of the territory of the same name, and is celebrated for the ecclesiastical council, which commenced in 1545 and continued to 1563.

CHAPTER IV

Manufactures, Commerce, and Shipping.

THOUGH the MANUFACTURES of Austria have lately had to contend with adverse circumstances, and are inferior to those of England and some other countries, yet their extent and variety prove them to require only the fostering care of peace to become a powerful source of national prosperity. A public institution has been established at Vienna for the purpose of bringing into one view specimens of all the manufactured articles of the Austrian dominions, and of occasionally contrasting these with such as are obtained from other countries. The information thus collected into one focus affords a facility in diffusing a correct knowledge upon this subject.

Many of these manufactures have suffered greatly by the late war ; but others have prospered from the same cause. Among these is cotton, which is now only inferior to that made in England, Saxony, and France. This manufacture alone employs about 360,000 persons. Austria Proper is its chief seat, and, in many instances, the English machinery and improvements have been introduced.

Bohemia, Moravia, and Styria, participate in this trade ; particularly the towns of Prague, Kuttensburg, Lettowitz, and Gratz.

“ LINEN is an article of much importance ; and Bohemia and Moravia are the principal seats of the manufacture. In the year 1801, the number of spinners of flax, in Bohemia alone, amounted to 230,000 ; the weavers to 85,000 ; and, by the calculations made in 1808, they appeared to be increasing. In Moravia, without enumerating those who weave for domestic consumption, the numbers employed in spinning are supposed to amount to 24,000, and in weaving to 16,000. The finest linens, however, are obtained from Austrian Silesia, where above 80,000 pieces are annually fabricated, without any large establishments for the purpose. The provinces over the Enns, and Galicia, also partake extensively, having above 60,000 individuals engaged in the manufacture.”

Great quantities of coarse linen are also made in many parts of Hungary, and sold to Greeks, Servians, and other travelling merchants.

Manufactures of IRON, STEEL, and other metals, give employment to numbers of people in Austria. The iron forges in the empire amount to about 1000. These are principally in Bohemia, in the country near the Enns, and in Styria. The steel ware of Carlsbadt is in high repute throughout Germany ; and the town and neighbourhood of Steyer alone employ about 12,000 men in the iron manufacture. At Vienna, and some other places, many fine works in steel are executed. Styria contains about 200 iron forges, which produce 14,000 tons annually, a great part of which is converted into edged tools in the same province.

GLASS and PORCELAIN are important manufactures in Austria. There are about 170 glass works in the Austrian dominions, nearly one half of which are in Bohemia, where magnificent services, and beautiful lustres are made, both for home consumption and exportation. The manufacture of plate glass is carried to great perfection, particularly at Neuhaus. Vienna porcelain is well known, and employs about 600 men in the suburbs of that city ; but the produce is inferior, both in colour and form, to that of many other places.

The SILK trade, which flourished before the French Revolution, has declined, and most of the looms are now employed in the manufacture of shawls, to which the ladies of the capital give great encouragement.

LEATHER is made in various provinces, and especially in Hungary. Vienna,

Bohemia, and Moravia, all produce leather of a superior quality. PAPER is also made in many places, but mostly of an inferior kind. The Germans, in general, have been long celebrated as workers of wood, and in this fame the Austrians participate. They also excel in making gunpowder. The materials of which it is composed abound, and the quantity made in Styria alone, exceeds fifty-five tons. The preparation of tobacco, and the refining of sugar, employ a great number of people. Various other articles also increase the productive industry of the country. Among these are gold and silver lace, cutlery, tinned ware, and musical instruments, with several kinds of machinery, which are made in the capital, or its suburbs. The jewellers of Vienna are much renowned for polishing precious stones, and the Cinnabar manufacture at the same place yields about 6000lbs. per week.

No authentic document has been published with respect to the total value of the Austrian manufactures ; but the amount may be stated at £50,000,000.

Vienna is the centre of the Austrian COMMERCE. Although it is of recent date, it now extends not only over all Germany, but is connected with several foreign countries, and reaches even to the Indies. Vienna has, therefore, become the rendezvous of merchants from various nations. There, Greeks, Jews, Armenians, Turks, Persians, Servians, Walachians, &c. are all engaged in commercial affairs. The most important part of the Vienna trade is with Turkey, to which glass, hardware, cloth, and Spanish piasters are exported ; and cotton, coffee, goats' hair, fruits, wines, and leather, are imported in return. Prague trades in glass, with most parts of Europe, and even America. It also exports large quantities of leather resembling that of Russia in quality.

Hungary is chiefly an agricultural nation, but participates in the Austrian trade. The staple commodity is wine, which goes chiefly to Poland, Russia, and the north of Germany. It also exports grain, tobacco, saffron, oil, metals, minerals, oxen, leather, wool, tallow, honey, and wax. The imports are colonial produce, cloth, cottons, and other manufactures, chiefly from Germany. Hungary is also the commercial channel between Germany and Turkey.

Much of the Austrian commerce with foreign states is carried on through the medium of its Italian possessions, and the ports in the Adriatic, which give it a share in the trade of the Mediterranean and the Levant. Trieste is the great depôt for foreign imports, and the port from which the adjacent countries are supplied. Venice participates in the same trade, besides supplying foreign commerce with wrought silks, velvets, and embroideries, from its own manufactures. The Venetian mirrors and turpentine are celebrated over all Europe. The smaller ports in the northern part of the Adriatic likewise share in this commerce. Milan trades in wrought silks and velvets ; and much rice is exported from its neighbourhood.

Both situation and climate are so various within the Austrian empire, that all the necessaries, and most of the luxuries of life, are produced in abundance. The principal trade is therefore between one province and another. The chief exports are native products, both metallic and vegetable. Its imports are East and West Indian articles, with some from the Levant and Africa, and a few manufactured goods from some of the other states of Europe. The annual value of the whole foreign commerce is stated, by M. Lichtenstern, at £6,200,000, viz. the exports at £3,000,000, and the imports at £3,200,000.

The number of the Austrian shipping is comparatively small ; but as the materials for their construction are abundant, the continuance of peace may easily render them equal to her commercial wants.

CHAPTER V.

Government—Constitution—Laws—Jurisprudence—Army—Navy—Revenue—Political Importance and Relations.

THE GOVERNMENT of Austria is an hereditary and nearly an *absolute Monarchy*, though subject to various modifications in the different parts of the empire. The numerous states and kingdoms of which the empire is composed, and the variety of ancient constitutions now comprehended within the limits of the Austrian power, give to the whole body, in this respect, the appearance of a federative, rather than a consolidated state. But, as the command of the forces and the revenue of all these various countries is at the disposal of the Emperor, no one state can successfully resist his will. Moderation, however, has long been a characteristic feature of the Austrian government, and a strong desire of internal improvement distinguishes the present Emperor.

Several of the provinces have constitutions very different from each other. Even in those of upper and lower Austria, the states meet at certain periods to deliberate on national affairs. Bohemia long enjoyed the privilege of a representative government, and though the states, consisting of the four orders, prelates, nobles, knights, and burgesses, still assemble, they can only offer humble advice to their Sovereign. Moravia is placed in like circumstances. Hungary has also a nominal government of its own, and has always been extremely jealous in watching over its constitutional privileges. The Emperor is invariably styled king of Hungary, and exercises his power only through the medium of the States, or Parliament, which meet at fixed periods for the transaction of national business. The supreme chancery for this government, by which its affairs are chiefly managed, is at Vienna. The following brief account contains the substance of the Hungarian Constitution.

“ Hungary is an hereditary, but limited monarchy ; the king of Hungary has many and great rights and prerogatives, more and greater than the King of Great Britain. But at the same time, great and numerous are the rights and the privileges of the Hungarian nobility, who alone, in the language of the state, are included under the appellation of the Hungarian people, (*populus*) and are distinguished in a peculiar manner from the nobles of all other European nations, from the circumstance, that the seals and grants of their privileges have suffered least from the changes of time, and the characteristic features of these rights, now in the beginning of the nineteenth century, approach nearer than any to those of the nobles in the days of the crusades.”

The executive government of the Austrian empire consists of four great departments, all established at Vienna, and which owe their organization to the counsels of Maria Theresa. One of these departments regulates the internal affairs of the empire ; its relations with foreign powers are managed by another ; the military concerns of the state are under the superintendence of a third ; and the interior administration of Hungary is regulated by a fourth.

The LAWS of this extensive empire are still more various than the different branches of its political constitution ; and its systems of JURISPRUDENCE were so vague and complicated, that the government has endeavoured, with laudable zeal,

to give a more easy exposition to their fundamental principles. Bohemia and Moravia are divided into circles or departments, each having a separate court of judicature, from which an appeal lies to the supreme tribunal in the provincial capital. In Hungary every county has its ruling assembly, and its court of justice, from which appeals are made to the judicature of the district, thence to the royal tribunal, at Buda, and finally to the king himself, without whose sanction no capital punishment can be inflicted. A uniform code has now been drawn up for the whole of the dominions, the criminal part of which was promulgated in 1804, and the civil part in 1812. The Laws are generally mild and salutary. Capital crimes are seldom committed, and therefore the punishment of death is rarely inflicted; but when it becomes unavoidable, the sentence is carried into execution with great solemnity, and the act accompanied by public prayers.

It is extremely difficult to estimate the MILITARY ESTABLISHMENT and the Revenue of a country, in which the official documents are confined to the archives of government. Hence, as the nature of the Austrian constitution does not require the publication of its official papers, all that can be given on this subject is an approximation.

In the campaign of 1805, the Austrians were supposed to have a regular army of 250,000 effective troops; nearly one-fifth of which was cavalry. They have besides, a great body of militia, denominated *Landwehr*, from which the regular army is chiefly formed. These troops were greatly reduced in that and the succeeding years, till Austria reached her ebb, in 1809, when she had lost about one-eighth of her population, and one-tenth of her resources. Since that period, the whole amount of the Austrian army was stated at 470,000 men; though perhaps not 300,000 were regular and effective troops. When subsequent events caused Austria once more to take the field against the common enemy, fresh exertions were made to place the army on a more powerful and effective footing; and the number of her regular troops, in the campaigns of 1813 and 1814, was perhaps greater than at any former period. Like most other countries in Europe, the Austrian army has now been greatly reduced; but that power furnishes 94,822 men as its contingent to the military establishments of the German confederacy, which is one in every hundred of her population within the limits of Germany. If the same proportion be taken for the other parts of the empire, the army will at present amount to about 280,000 men. This, however, is not drawn from the several states in the exact proportion of their population; for the peace establishment of Bohemia is stated at 50,000 men, which is about one in every sixty-four individuals. In Hungary the proportion is much less. Dr. Bright says that "the standing force of Hungary consists of twelve infantry, and ten hussar regiments. In time of peace, an infantry regiment consists of 3837, and an hussar regiment of 1698 men; the whole strength is therefore 63,000. In time of war they are increased." Now, as the population of Hungary is about seven millions and a half, the military force is about one in every 120. The Hungarian army consists of three separate classes; the nobles who are called together at the pleasure of the sovereign; the standing army, kept up by recruiting and conscription, and the military frontiers, where every man holds his possessions on condition of being ready to take up arms when called upon. It has been remarked, that Hungary never supplied Austria with 100,000 men at once.—Most of the horses for the light cavalry are drawn from Hungary and Galicia, and those for the heavy troops, from Bohemia and Moravia. The provinces of Upper and Lower Austria, likewise supply a great number for the latter purpose. The council of war, with the Arch-duke Charles at its head, has introduced into the army a regular system of military organization. As Austria was till lately excluded from the sea, she has no NAVY.

The whole REVENUE of the empire is estimated at twenty-two millions and this arises principally from the land, and articles of internal consumption. Besides these, the imperial domains, the monopoly of certain manufactures, the royal mines, the duties on stamps, hair-powder, glass, china, wine, beer, brandy, legacies, titles, carriages, and other objects of luxury, with a tax on Jews, and some other sources, all contribute towards producing the above sum. It is difficult, however, and perhaps impossible, to ascertain with certainty the proportions each state contributes to this general Revenue. Hungary supplies between three and four millions, arising from crown lands, mines, and coining, salt, tolls of goods passing the frontiers, fines, penalties, and the incomes of vacant bishoprics; with a tax upon Jews, free-towns, salaries, and pensions.

With dominions so extensive and diversified, yet so concentrated and central, Austria must be considered as an important weight in the balance of European powers. Her population is ample, her internal communications easy, and capable of great extension, while her diversified products afford almost every thing necessary either for supplying the wants, or exercising the industry of man. Among these are the materials for the most varied arts and manufactures, hemp, flax, wool, silk, gold, silver, iron, copper, tin, lead, with other metals. Marble and stone abound, and only require a slight transfer from one district to another, to be generally diffused over the whole empire.—Such is Austria in herself. But her situation with respect to other countries is not less important.

Occupying the centre of Europe, Austria is more contiguous to all its great powers, than any of its other states. She is in immediate contact with Russia, Prussia, and Turkey. Bavaria and Switzerland alone separate her from France; while her dominions stretch to the heart of Italy, and give her access to the ocean by means of the Adriatic.—Such is her situation with respect to other states. But, in addition to this, she has a population of nearly thirty millions, an army of nearly 300 thousand, and a revenue capable of being rendered adequate to all her wants.

Though the disasters which for a series of years attended the military operations of Austria may have induced the belief, that her armies were more numerous than effective, yet subsequent events have completely disproved this supposition.

The two continental states which both experience and anticipation point out as the preponderating powers, are *France* and *Russia*, and the relative situations of these, render Austria peculiarly interesting and important. Her central position, and her numerous, yet crowded population, are well adapted for maintaining the balance between those powers; and if that alliance with Prussia subsist, which their mutual interest demands, their united strength must form an almost insurmountable obstacle to the aggrandizement of either France or Russia.—But suppose a difference of opinion to have arisen between the leading powers, and Austria to have declared her intentions respecting them, there still remains a higher court of appeal—the equilibrium may be destroyed, but the arch is not complete, the “*Key-stone*” remains to be fixed.—Britain is yet aloof; and if her influence cannot reconcile the contending parties—her weight restore the equilibrium of the political arch—recent experience has shown, that tremendous must be the crash.

CHAPTER VI.

Religion—Education—Language and Literature—Arts and Sciences—Manners and Customs.

THE established RELIGION of the Austrian empire is the ROMAN CATHOLIC ; but all sects are freely tolerated ; and they are numerous in some parts of the dominions.

Vienna is a metropolitan see, and the archbishop is a prince of the holy Roman empire. The archbishop of *Gran* is the metropolitan of Hungary, and by virtue of his office is lord-lieutenant, primate, and chancellor of the kingdom, and has the exclusive right of crowning the king. He can create nobility within his archiepiscopal dominions ; and has an annual revenue of about £36,000. The emperor is at the head of the Austrian church, and in this capacity he is, perhaps, more absolute than in the exercise of his political functions. In Hungary in particular, the king is pope. He appoints bishops, regulates their incomes, suppresses, or establishes monasteries, controuls the appeals of the prelates to the papal authority, and exercises various other functions in virtue of his ecclesiastical authority. Many of the monasteries in the Austrian dominions have been suppressed and their revenues applied to other purposes. The number of Protestants has greatly increased since complete toleration was granted them in 1791. The catholics are supposed to be about two-thirds of the whole population ; the other third consisting of Calvinists, Lutherans, members of the Greek church, Jews, and Mahometans. But in many parts of the empire the inhabitants do not possess sufficient information to exchange a mode of worship which dazzles the imagination by the pomp of its exterior ceremonies, for one, the chief appeal of which is to the understanding, and its influence not on the fancy, but the heart. The members of the Greek church are supposed to be about two millions.

It has been observed, that a marked distinction exists between the inhabitants of the north and the south of Germany, in reference to the progress made in the paths of useful knowledge ; and the Austrian empire affords an exemplification of this general observation. EDUCATION has been much less attended to than in the Protestant countries ; and though the liberality of government, for some years, has been directed to the subject, the means for its effectual accomplishment throughout the empire, are still very defective. The Empress Maria Theresa set the laudable example of establishing schools in many parts of her dominions, but teachers properly qualified were wanting to give them the desired success. These schools have been increased since her time, and a great proportion of the population of Austria Proper can read and write their native tongue ; but this is rarely the case in most of the distant provinces.

The information collected by Dr. *Bright*, on this interesting and important topic, and the efforts made by the present Austrian government to turn the minds of its subjects to certain branches of knowledge, will place the education of Austria, at least as far as relates to the focus of the empire, in its true light. He observes,

“ I have already noticed, that the business of education in Austria is of a most formidable nature, both for its duration and its formality. It necessarily

demands a large apparatus to keep it in activity ; and, accordingly, there are throughout the empire, universities, lyceums, district academies, gymnasiums, Latin schools, schools for instructing children in their native tongue, and schools for teaching the elements of religion, all under the immediate superintendence, and in the greater part supported at the expense, of government. The professors and teachers are not only paid from the public treasury, but the young men are obliged, under pain of exclusion from all the endless offices of state, to attend their instructions. Private schools are, consequently, almost unknown ; and there are no traces of that emulation which, in more free countries, ensures to parents a large choice of well-instructed masters, each anxious to improve and facilitate their education.

“ Vienna has its full share of these public institutions for leading young minds into such paths as the Austrian government thinks most fitted for its subjects. There are sixty schools for instructing the poor in reading, writing, and arithmetic, where they pay at the rate of three florins per year.—One Normal school, professing nearly the same objects, as preparatory for the gymnasium, at ten florins per year.—Three gymnasia, in which the studies prescribed by law are, religion, composition, classics, natural history, arithmetic, geography, history, and the elements of mathematics ; —and an university, provided with forty-five professors besides extra teachers.

“ Independent of all these is the Theresian Academy, established for the sons of Catholic nobility, to which foreigners are admitted. It is superintended by a director, and has twenty-one professors, ten masters of the modern languages, besides several tutors.

“ There are likewise Imperial medical academies, Imperial military academies, and an Imperial academy for the oriental languages ; and, lastly, the Imperial Polytechnic school lately established, for instructing tradesmen, and teaching solely by means of professors and their lectures, all the trades and manufactures, from the sewing of a shoe, or the making of a table, to the construction of a palace, or the fabrication of a silk brocade.

“ To some of these institutions considerable libraries are attached. That of the university is very extensive, and is said to contain 90,000 volumes. The imperial collection of books, however, far surpasses every other, and consists of 200,000 volumes. These are deposited in a most magnificent hall, to which are attached smaller rooms for manuscripts, and some selections of rare books, illustrative of particular subjects. A large part of this library is freely open, during several hours of the day, to the use of the citizens, who may read in an apartment furnished with desks, where the books they require are brought to them by the attendants, to whom they are again returned on quitting the room.”

The LANGUAGES spoken by the collective nations that form the population of Austria are numerous, but they may all be considered as different dialects of a few common stocks. The Gothic or German, is that of the ruling people, and the most prevalent. The Slavonic is spoken in Bohemia, Moravia, Galicia, and part of Hungary ; and the proper Hungarian, which is said to be a dialect of the Scythian, is prevalent in the remainder. The Italian is the language of the southern provinces ; and French is spoken by all the higher classes. Nearly all the Hungarians speak Latin ; and in those parts bordering on Turkey, the Walachian language, which bears a strong analogy to the Latin, is the general medium of communication.

In LITERATURE, Austria has no high claim either to antiquity or celebrity. The Austrians, however, are not devoid of eminent names in various branches of knowledge ; but the series has been interrupted, and the instances of distinguished excellence are few. Several causes have retarded the progress or perverted the power of letters and philosophy. Among these the unpolished state of the native

languages, and the want of connexion with the more classical languages of Europe; the restrictions of government; and the bigotted prescriptions of mistaken religious zeal, have often blasted the bud of genius, or cramped all the expanding powers of the aspiring mind.

“With the exception of Mr. Hammer’s colossal strength in oriental learning, the general literary knowledge of the archimandrite of the united Greek church, Anthemo Gazi, particularly as respects both ancient and modern Greece;—the historical sketches of Baron Homayr;—the political disquisitions of the aged Sonnenfels;—the elegant romances and idyls of Madame Pichler;—and the dramatic works of Madame Wessenthurn,”—there are few recent writers of distinguished eminence, except on local subjects.

The ARTS and SCIENCES are likewise in progress in the Austrian dominions; but all, except music, are still inferior to those of many other countries. Mathematics, Astronomy, and Botany, have been successfully pursued by several individuals; among whom professor Burke and the Abbe Treisnecker are distinguished. Great encouragement has been given to the medical science at Vienna, and much progress made both in it and in chemical researches, and botany, with which it is so immediately connected. In the fine Arts, it would be difficult to find a truly eminent painter or sculptor. Even architecture is still in its infancy; and most of the public buildings have been planned by foreigners. A society, however, has been instituted at Vienna for the improvement of this useful and ornamental art. But in music, the name of *Hadyn* and *Mozart*, whose powers and taste were formed at Vienna, are sufficient to establish the national fame; for if they are inferior in melody and sweetness to a few of the Italian composers, they are not to be surpassed in the grandeur and soul-rousing powers of this magical art.

The patience and perseverance of the Austrian character are favourable to mechanical inventions, and in this respect they have not shown themselves deficient; but their efforts have rather been directed to gratify the fancy, than to promote the purposes of practical utility; a defect which belongs to German mechanism in general. One mechanic has constructed a machine that performs all the functions of an expert chess-player; another has made a head capable of imitating all the varied sounds of the human voice; and a third has contrived an instrument that emits simultaneously all the diversified sounds of music.—These are all eminent displays of human ingenuity, but how differently directed was the genius of a Brindley, an Arkwright, and a Watt.

Many of the Austrian universities have been mentioned in describing the chief towns; but their immediate connexion with the previous subject requires their enumeration. The principal are at Vienna, Prague, Pesth, Erlan, and Lemberg, with those of Milan, Mantua, Padua, and Pavia on the south side of the Alps.

The MANNERS, CUSTOMS, and National Character of the vast body of the people, which compose the present population of the Austrian empire, must be various. They embrace kingdoms and states long existing under different forms of government, and subject to a diversity of local circumstances. In giving a general sketch of this complicated subject, the most satisfactory plan will be to delineate the prominent features of the principal nations. In such a sketch the provinces of Austria, as the head of the united empire, claim the first place. Many of the following particulars are derived from the statements of a gentleman who resided several years in that, and other parts of Germany, and whose abilities and opportunities eminently enabled him to form a correct estimate on the subject.

The *Austrians* are, generally speaking, a handsome and athletic race, composed principally of German materials, but mixed with the different inhabitants of

Hungary, Italy, and Bohemia. Hence the darker complexion, bolder features, blacker eyes, and more animated expression of the Austrian, than of the German, countenance. The Austrian character partakes of the grand German outline; of which "sincerity, fidelity, industry, and a love of order, are its conspicuous qualities." But the genuine operations of these valuable qualities, are often counteracted by a deficiency of education and of mental refinement, with a consequent predilection for sensual pursuits, and a blind adherence to old customs and prejudices. Dr. Neale remarks, that two circumstances particularly engage the attention of the stranger in Vienna—"The splendour and extravagance of the rich, and the sobriety and good conduct of the poorer classes of the Austrian capital." This observation may with great propriety be extended to other parts of the province; for the writer first referred to observes, "The Austrians may justly be called a sensual people, in the same manner as the aggregate of the European population deserves that title; that is, they show every inclination to gratify the propensities by which they are most powerfully solicited.—They are as fond of dancing, noise, and gallantry, as the French; they have no more objection to a good dinner and a bottle of wine, than an Englishman; no Italian can be more passionately enamoured of music; no Neapolitan of high-sounding titles, of finery in clothes and equipages, or of religious parade; and no school-boy of play in every possible shape. This variety of tastes for pleasure, may probably arise from the cause to which we have alluded: it has certainly stamped upon this people the impression of a sensual nation. But what holds true of few other nations, is strictly just when applied to the Austrians: they can rush from the ball or the banquet into the field of battle, and seem to enjoy the terrors of war no less than the pleasures which it destroys. Their sensuality never unmans nor enervates them. Their hearts are as unsusceptible of fear, as they are alive to delight; and nature seems to have given them the faculty of being contented in every place and emergency, whether in the comic theatre, or the scene of blood, and whether running to their nuptials, or to their graves. Nor is this equanimity the child either of phlegmatic indifference, or philosophical calculation: it is the effect of a constitutional felicity upon a people who have rarely felt either political oppression, or religious persecution. The great mass of the people seem to be much at their ease, their houses are large and commodious; their lands fertile, and comparatively well cultivated; their cattle, horses, and domestic animals, well fed and judiciously managed; and their country better supplied with roads, bridges, salutary municipal regulations, (and these too pretty well executed) than any other province in Germany."

The same writer likewise points out three peculiarities which are strongly marked in the Austrian character—The Austrian always betrays complete indifference about public affairs, whether they respect his own country, Europe, or the world in general. He never asks for news, or listens to political discussions, nor indeed to other topics of a general and serious cast, without evident indifference or aversion. He seems to be naturally and instinctively averse to any speculations upon such subjects, and to have received from his first entrance into the world a bias the very reverse of that which is the distinguishing feature of the British character.

Another "striking peculiarity in the Austrian character, is the union of great physical vigour and ardent love of pleasure, with the most astonishing self-command, forbearance, and good nature. Quarrels, even among persons intoxicated with spirituous liquors, are the most harmless things imaginable. They hardly ever come to any height, even in words; blows are scarcely heard of in many towns during a whole year; and maiming or murder, is, on such occasions, wholly

unknown. There is probably more blood shed at one country market in Ireland, or at a quarrelsome drinking match in Wales, or the Highlands of Scotland, in one evening, than in the whole of Austria in twelve months." The Austrian likewise pays "a profound veneration to the memory of his deceased friends; and this makes the stronger impression as he seems so wholly engaged with objects of present sensation. As exemplifying this feeling, it has been stated, that when a person perishes by an accident, a board containing a description, or painting, explanatory of the event, is hung up on the spot, and remains for many years, as a monument in honour of the departed; and these are never defaced except by the mouldering hand of time. The natives regard them with profound veneration, take off their hat as they pass by them, and mutter a prayer for the happiness of their friends. There is something peculiarly affecting in seeing this done with folded hands, by boys and girls, as they go to the schools.

"Consistent with this custom is the decency of their funerals; and the decorous state of their church-yards and tomb-stones. Nothing can exceed the care with which they are preserved, and nothing but sincere respect for the relation which once subsisted between the deceased and those whom they have left behind them, could prompt the latter to give so conspicuous an evidence of it."

The Austrian females enjoy a greater degree of freedom, previously to marriage, than the same class do in France, and some other of the more southern countries of Europe; and they are subsequently distinguished by the assiduous fulfilment of all the relative duties of life. Domestic disquietudes are rare, especially among the lower classes. The care of children, the habit of labour, and the attendance on divine worship, seem to occupy all their thoughts.

The following brief remarks of Mr. *Lemuistre*, relative to the persons, manners, attainments, and delicacy, of the Austrian females of the higher classes, place these points in a clear light. He observes, "The Austrian ladies are the handsomest women I have seen on the continent; their countenances are expressive, and their complexions uncommonly fair. In beauty they are exceeded by no females in Europe—excepting only our own country-women, whose unrivalled superiority, I believe, is universally acknowledged. In manner, they are elegant; and in conversation lively and well informed. Much greater attention seems to have been paid to their education, than is usual in other parts of the continent; all of them speak French with as much fluency as German; and some are proficient in English. The best works in these languages are familiar to them. They are completely free from pedantry; and I have had frequent reason to admire the taste and knowledge displayed in their remarks."

The following relation shows the shady side of the picture. Mr L., in reference to the *Anatomical Collection*, at Vienna, observes, "In walking through the rooms already described, which were crowded with spectators, I could not help remarking with disgust some Austrian females, who looked on the most exposed objects without a blush, were extremely curious in their inquiries, and received very ample satisfaction, without being either offended at the explanation, or at the terms in which it was conveyed. Happily, in England, our ladies have a different idea of propriety; and, conscious that the greatest ornament that a woman can possess is a refined sense of delicacy, would as unwillingly listen to a Lecture on the formation of the human body, as to the indecent remarks of a drunken libertine. On the continent, no such feeling characteristic of the sex exists, and women both hear, and discuss at large, subjects which in our country it would be a breach of decorum to mention in their presence."

The Austrians excel in instrumental music. This prevails in the most fertile parts of the empire, as well as in the mountainous tracts and secluded spots

of Tyrol and Carniola, and must be considered as "forming a curious example of the results attendant on the continual prosecution of an elegant study by a slow and apparently inanimate people." No country presents fewer instances of criminal offences than Austria. Years sometimes elapse without a single victim being immolated on the altar of public justice. Scarcely any of the Austrian amusements deserve the name of athletic exercise. Those most common are shooting at a target, playing at nine-pins, billiards, and cards, with dancing and concerts.

The higher classes of the BOHEMIANS have a great resemblance to the Germans in their persons and habits; but the lower are more assimilated to the Hungarians and Slavonians. In Bohemia, as in eastern Germany, there is no middle class, no medium state of society.—Every lord is a sovereign, and every peasant a slave. The Emperor Joseph II., used all his influence to release the peasants from their vassalage, but his benevolent exertions were frustrated by the prejudices of the nobles. The Bohemians, headed by the brave and noble-minded *Zisca*, were once the most intrepid asserters of civil and religious liberty in Europe; but now they are not distinguished from their German neighbours, either for arts or arms. It is painful to reflect, that the parapets of that bridge (in Prague) so often the scene of triumphs in favour of liberty of conscience, is now covered with a long line of gilt and varnished saints; and that those fields so often drenched with the blood of warriors who fell in the cause of truth, are now overspread with the superstitions of the Roman church. The Bohemians are robust and strong made, courageous, active, and sincere.

Learning is at a low ebb among them, but manufacturing industry is more generally diffused than in most other parts of the empire.

The inhabitants of MORAVIA, being a mixture of Germans and Slavonians, participate in the manners and customs of both these stocks. They have a great resemblance to the Bohemians. A small tract near Olmutz, is inhabited by a distinct people of Slavonic origin, and who are supposed by the native statistical writers to be the unmixed descendants of the first inhabitants of the country. They are called *Haunacks*, from the river Hauna which flows through that district. They are low in stature, but strong and muscular, and have preserved, in their manner of life, much of their primitive simplicity. From their plain and temperate habits they live to an advanced age. They are reproached by the other inhabitants with indolence, but they plead the fertility of their soil as a palliation of the charge, and look down on their more industrious neighbours as an inferior race of beings, to whom Nature has been less bountiful than to themselves. "The young women are remarkable for the grace and elegance of their forms, and the neat adjustment of their dresses, which are very picturesque, and show off, to great advantage, a considerable share of personal beauty with which their wearers are gifted. Their summer dress consists of a large white linen cap, the lappets of which, bordered with lace, and embroidered with black silk, fall over their shoulders. Their long hair is suffered to float in tresses; or when the cap is laid aside, is gracefully twisted and tied over the head with knots of ribbands; their well-turned ankles are set off with white or red stockings, with black shoes and red heels. The dress of the men consists of a round hat, adorned with various coloured ribbands; a waistcoat, commonly green, embroidered with silk, surmounted by a broad leathern girdle, with brown pantaloons and boots, joined to the vest by means of large buckles. This is their summer costume, but in winter they cover their heads with a large and singularly-shaped fur cap, and throw over their shoulders an undressed sheep, or wolf-skin, in the absence of which they wear a brown woollen-cloak, with a large hood, like that of a Capuchin friar."—*Neale's Travels*.

The SILESIAI, whose manners and customs are so nearly allied to those of the adjacent parts of the Prussian territory, and the Galicians, who inhabit the Austrian part of Poland, are more properly described under those countries.

The kingdom of Hungary forms an important part of the Austrian dominions, and presents a state of society so different from that to which we are accustomed in this country, that a slight sketch of its leading features is highly interesting. On this subject the observations of Dr. *Bright* merit particular attention.

The Hungarians are the descendants of the ancient Sclavonians. They are a martial and spirited people, accustomed to assert their national privileges, and impatient of controul. Originally consisting of different races of men, whom war and commerce had mingled, and time cemented into one mass, they are chiefly of a cholic and sanguine temper.

Many of the nobility, who are very numerous, apply themselves principally to hunting, martial exercises, and gratifications of a sensual kind. In Hungary, as in most other places where the nobles and the peasants compose the whole of society, the one is invariably a tyrant, and the other as uniformly a slave.

The *Hungarians* are tall and well made. The dress of the higher classes, generally, consists of a fur cap, a close coat girded with a sash and covered with a mantle or cloak. This gives them an air of military dignity, which is still heightened by the practice of not shaving the upper lip. The females are more handsome than the Austrians, and their sable dress, with long sleeves, is favourable to their appearance. The diversions of the Hungarians are all of the athletic and martial kind. They are in general a spirited and magnanimous people; and though extremely jealous of their liberties, they have shown great attachment to the house of Austria since the reign of Maria Theresa. The state of society, and the connexion between its component parts, present a picture very different from what is exhibited by the western nations of Europe. This will be clearly perceived from the following sketch, given by the intelligent traveller above referred to.

"The manner in which land is possessed and distributed in this country is very singular. No man can possess lands who is not a noble of Hungary. But as all the family of a nobleman are also noble, it is supposed that, in every twenty-one individuals in the nation, one is of this class. The lands descend either entire and undivided to the eldest son, or are equally divided among the sons, or in some cases among the sons and daughters; so that many of the nobles become, by these divisions, extremely poor, and are often obliged to discharge all the duties of the meanest peasant. If any of the nobles wish to sell an estate to a stranger, however high in rank, even to a noble of the Austrian empire, application must first be made to the surrounding proprietors, to learn whether they wish to purchase at the stipulated price; if they decline, the stranger may purchase it for a period of thirty years; at the end of which time, any branch of the family that sold it, however distantly related, may oblige the stranger to surrender his bargain. This goes so far that, in many cases, though the purchaser be an Hungarian noble, the family of the former possessor can reclaim it after thirty years, on payment of the original price, together with expenses incurred in the buildings and improvements which have been made during that period. The litigation, ill-will, and evils of every kind, to which such laws give rise, are beyond calculation."

Maria Theresa instituted regulations which left a less arbitrary power in the hands of the nobles. She fixed the quantity of land upon each estate, which was to be possessed by the peasants, giving to each a portion called a *session*, and defining the services his lord should require in return. The peasant, however, has no absolute claim to a whole session, but may have only one-half, or one-third, according to the pleasure of his lord, but in that case only one-half, or one-third of

the stipulated services can be demanded in return. The peasants are not absolutely fixed to the soil, but may be dismissed if the superior finds cause: nor does the son always succeed the father, though this is usually the case.

"The services required of the father of a family, for the whole session, are one hundred and four days of labour during the year, if he work without cattle, or fifty-two days if he bring two horses or oxen, or four if necessary, with ploughs and carts. In this work he may either employ himself, or, if he prefer and can afford it, may send a servant. Besides this, he must give four fowls and twelve eggs, and one pfund and a half of butter; and every thirty peasants must give one calf yearly. He must also pay a florin for his house,—must cut and bring home a klafter of wood,—must spin in the family six pfund of wool or hemp, provided by the landlord,—and, among four peasants, the proprietor claims what is called a long journey, that is, they must transport twenty centners, each one hundred French pounds weight, the distance of two days' journey out and home; and, besides all this, they must pay one-tenth of all their products to the church, and one-ninth to the lord."

The appearance of the Hungarian peasants, in general, "bespeaks no fostering care from the superior,—no independent respect, yielded with free satisfaction from the inferior. It is easy to perceive, that all stimulus to invention, all excitement to extraordinary exertion, is wanting. No one peasant has proceeded in the arts of life and civilization a step farther than his neighbour. When you have seen one you have seen all. From the same little hat covered with straw, falls the same matted long black hair, negligently plaited, or tied in knots; and over the same dirty jacket and trowsers, is wrapped on each a cloak of coarse woollen cloth, or sheep-skin, still retaining its wool. Whether it be winter or summer, week-day or sabbath, the Selavonian of this district never lays aside his cloak, or is seen but in heavy boots. Their instruments of agriculture are throughout the same, and in all their habitations is observed a perfect uniformity of design. A wide muddy road separates two rows of cottages, which constitute a village. From amongst them there is no possibility of selecting the best or the worst; they are absolutely uniform. In some villages the cottages present their ends; in others their sides to the road, but there is seldom this variety, in the same village. The interior of the cottage is generally divided into three small rooms on the ground floor, and a little space in the roof destined for lumber. The roof is commonly covered with a very thick thatch, the walls are white-washed, and pierced towards the road by two small windows. The cottages are usually placed a few yards distant from each other. The intervening space defended by a rail and gate, or a hedge of wicker-work towards the road, forms the farm yard, which runs back some way, and contains a shed or out-house for the cattle. Such is the outward appearance of the peasant and his habitation."

With respect to the internal arrangement of these Hungarian houses, the same author gives the following description of some of those he visited.

"The door opens in the side of the house into the middle room or kitchen, in which is an oven, constructed of clay, well calculated for baking bread, and various implements for household purposes, which generally occupy this apartment fully. On each side of the room is a door, communicating on one hand with the family dormitory, in which are the two windows, that look into the road. This chamber is usually small, but well arranged; the beds in good order, piled upon each other to be spread out on the floor at night, and the walls covered with a multiplicity of pictures and images of our Saviour, together with dishes, plates, and vessels of coarse earthenware. The other door from the kitchen, leads to the store-room, the repository of a great part of the peasant's riches, consisting of bags of grain, of

various kinds, both for consumption and for seed, bladders of tallow, sausages, and other articles of provision, in quantities which would astonish us to find in an English cottage. We must, however, keep in mind, that the harvest of the Hungarian peasant anticipates the income of the whole year; and, from the circumstances in which he is placed, he should be rather compared with our farmer than our labourer. The yards or folds between the houses are usually much neglected, and are the dirty receptacles of a thousand uncleanly objects. Light carts and ploughs, with which the owner performs his stated labour,—his meagre cattle, a loose rudely-formed heap of hay,—and half a dozen ragged children,—stand there in mixed confusion, over which three or four noble dogs, of a peculiar breed, resembling in some degree the Newfoundland dog, keep faithful watch."

The Hungarian peasants are extremely ignorant, not one in twenty being able to read; and while the relation between them and the nobles remains as at present, but little improvement can be expected. Another prominent and peculiar portion of the Hungarian population is composed of the WALACHIANS, who inhabit the regions on the borders of Turkey.

This singular people claim the honour of being descended from the ancient Romans, and there is great similarity between their language and the Latin; but it is difficult to trace any other resemblance between them and their warlike ancestors. The number of Walachians in the Austrian empire has been stated at more than a million and a half, of whom about 900,000 inhabit Transylvania, 550,000 Hungary, and 150,000 Bukowina. A German author, in describing this people, says, "The Walachian is short, but of a strong, compact, muscular frame of body. The savage mode of life to which he is accustomed from his earliest infancy, enables him to bear hardships with fortitude. Heat and cold, hunger and thirst, make no impression on him. His features are strong and impressive, his hair dark and bushy. On the whole, his countenance is not disagreeable, and you may often find among this people individuals of great beauty. They arrive early at maturity, yet frequently live to an advanced age. At the age of seventeen or eighteen, the Walachian marries a girl who is seldom more than thirteen; before he is thirty, he is a grandfather; so that the race multiplies rapidly, and the Walachians are already more numerous than all the other inhabitants of Transylvania, a disproportion which will probably grow every day more conspicuous. The Walachians are, in respect to character, sly, reserved, cunning, revengeful, and indolent. With the greatest appearance of innocence, they understand well how to profit by every opportunity of over-reaching their neighbours. Of their cunning and revengeful dispositions examples occur every day; and the history of Transylvania, as well as its laws, afford additional proofs. Indolence prevails amongst them, as in other uncivilized nations; it is, however, rather the failing of the men than of the women, who perform all the labour of the house, make clothes for the whole family, and frequently give their husbands much assistance in the labours of agriculture; whereas the men, after having discharged some of the most indispensable occupations of the field, and of the vineyard, spend the remainder of their time in idleness. Their few wants are easily supplied, and, when this is done, they seek no more. The natural indolence of the Walachians receives much encouragement from the frequent holidays celebrated by the Greek church, which they usually spend in prayer, drinking, and sloth. To work upon these days would be criminal."

The propensity of the Walachians to drinking and quarrelling, gives them a great resemblance to the lower classes of the Irish. Indolence induces them to prefer the breeding and management of cattle to any other pursuit. The cultivation of the field and the vineyard is never resorted to but by necessity. Their habitations are small, and generally built of mud and timber, with very little

windows, made of pieces of bladder instead of glass. Some of them, notwithstanding, possess considerable property in their flocks and herds. These singular people have lately been well described by a German writer, from whose work the following particulars are derived.

Their mode of living is very simple. Their food consists chiefly of maize, from the meal of which they make thick porridge, like the polenta of the Italians, which they call *mamaliga*. From the same meal they make a kind of cakes, which keep for a long time, but soon grow hard, and scarcely fit to eat. They also use milk, cheese, fat, fruit, onions, garlic, peas, and green vegetables, all of which they cook in the most simple manner. They observe very strictly all the fasts of the Greek church, during which they totally abstain from animal food, of which, indeed, they are extremely sparing at other times. During these fasts, they prepare their food with water and salt only. They drink a great deal of wine and brandy; the latter of which they distil both from grain and plums.

The clothing of the Walachians often varies with the district; but, in general, the summer dress of the men consists of a short coarse shirt, with wide open sleeves. It covers part of the thighs, and is worn on the outside of the small-clothes, which are very wide and reach to the ancles. In winter they are made of coarse white woollen-cloth, and in summer often of linen. They wrap their feet in rags, and then bind a piece of raw hide over them with thongs; which they call *Opintschen*; but instead of these the more wealthy wear short boots. The shirt is fastened round the body with a leathern girdle, ornamented with brass buttons, in which they carry a knife, a flint, a steel, and a pipe. Over the shirt a jacket of coarse brown cloth is thrown. Their hair is worn short, and none but the old men, and such as from the offices they fill are entitled to particular respect, suffer their beards to grow. Among the common people this usually takes place after the age of forty, and such men are distinguished by the appellation of *Moschule*, or grandfather. The head is usually covered with a round flat hat, or woollen cap, except during a season of mourning, when the head is always uncovered, let the weather be what it may. When on a journey, they carry a knapsack with provisions, suspended by a strap from the shoulders, and have usually a strong stick in their hands.

The women wear a round under dress, which reaches to the knees, and is ornamented at the breast and sleeves with coloured stitches. This is encompassed by a small girdle, from which two aprons are suspended, the one behind and the other before. These are shorter than the under dress, and are made of striped woollen cloth, ornamented at the bottom with fringe. The bosom is usually covered with a stomacher of leather or cloth. In winter they wear wide drawers; and at all seasons, in the mountainous parts, they use the *Opintschen*, but on the plains they wear boots. The girls wear no covering on their heads, but braid the hair, and dispose it on the head in the form of a cross. Married women wear head-dresses of white linen, and the richer classes have them of muslin. The Walachian women are very fond of ornaments; all paint their cheeks red, and deem it essential to beauty. They also colour their eyebrows black, and wear ear-rings; but their most valued ornaments are necklaces. Among the rich these are usually made of gold and silver coins strung on threads; but with the poorer classes, coins of baser metal are substituted for the gold and silver. A great number of these is frequently worn at a time, and of such a length as to reach to the girdle. The embroidery on their dresses, and their many-coloured aprons, are considered as essential parts of their ornamental dress. During summer, the children wear only a long round dress, reaching to the ancles, without distinction between boys and girls. In winter, too, they have seldom any other clothing; and are seen

leaping about among the snow in this state of comparative nudity. At six or seven years old, they begin to dress like the men and women.

In winter, the Walachian provides himself with a sheep-skin cloak, with the wool turned inwards; and having a large cape of fur. The place of this cloak, however, is sometimes supplied by a large white or brown woollen mantle, with a hood, to be put over the head in bad weather. Under this cloak he wears the usual dress of other seasons. The women also wear cloaks of sheep-skin with the wool inwards, and ornamented on the outside with patches of different-coloured cloth, or coarse embroidery. These have holes for the arms, and are fastened in front by laces or buttons.

There are two other classes of the Hungarian population—the Gypsies and the Jews. Both are spread throughout the greater part of the country, and maintain the same indolent and predatory character as in other portions of Europe. The Gypsies are here called *Cyganis*, and are remarkable for their musical talents. Though they sometimes live in settled villages, they cannot be induced to join in any regular labour, either as managers of cattle, or cultivators of the soil. The only appearance of a regular employment they follow is gold-washing, in which they are engaged in some parts of Transylvania. The empress Maria Theresa, and the emperor Joseph II., attempted to civilize them, and render them useful to the state, but little effect has yet been produced.

The following delineation of the people assembled at a Hungarian fair, by a native writer, affords a lively and striking view of the various characters by which that country is inhabited, and deserves to be embodied by the pencil of a Wilkie.

“The manner in which the Hungarian peasant conducts himself in the sale of his produce, is, when compared to that of the Slavonian, the German, and the Jew, with whom he is surrounded, remarkable and interesting. The Slavonian enlarges on the excellence and cheapness of his ware, with palpable and suspicious eagerness. The German dresses out his merchandize, turns it from one side to the other, and presents himself to the purchasers with a commanding self-sufficiency. The Jew swears with heart and soul that he will injure no man,—and the Raitzer is stern, silent, and unaccommodating; but, on that account, his characteristic and fiery eye pleads with the greater eloquence. The Hungarian alone keeps himself perfectly passive in his dealings. He allows his goods to be inspected,—answers shortly and directly to the question, and attempts not to impose either by words or artifice. You perceive by his embarrassment that he is unaccustomed to low arts,—his good temper evidently counteracts the feeling of poverty, which is therefore borne with ease and content. Shirt and skin, and little else, are to be seen, except his long hair, which hangs loosely over his shoulders; and all these are scarcely to be distinguished from each other, so disguised are they by filth and negligence. The appearance in drizzling weather of the *Konigs-strass*, which is the district of the Jews, is little more attractive than the quarter frequented by the peasants. Whoever feels inclined to study the character of this people, will now find an ample opportunity. Here they swarm together like bees, fix themselves on the passenger who appears likely to trade with them, or traffic amongst themselves with affected grimaces and assumed appearance of activity; while they look with their eyes turned both towards the right, and towards the left, on a hundred objects at a time.”

The mountainous provinces of the south are inhabited by a variety of people, who have sprung from different origins, and are still distinguished by their languages, manners, and dress, as well as the names they give to places, and the customs they observe.

Carniola and Styria, are chiefly inhabited by Slavonic and German tribes,

but they are mixed with Italians. They are in general a hardy, bold race of men whose manners and customs, particularly in the secluded regions of the mountains, still retain much of their primitive simplicity. But the general sketch which Mr. *Deaumont* has given of those of the Tyrol must suffice, as it affords a good idea of the whole.—“The Tyrolese in general, as well as most of the inhabitants of the Alps, are not opulent, yet there are scarcely any poor among them. I have travelled through several of their vallies, which extend upwards of ten miles, and have not met with the least appearance of wretchedness. Each individual cultivates his own land; and when that is not sufficient for the maintenance of his family, he has recourse to that industry and activity that are natural to them all; and endeavours to procure work in the mines, or different manufactories; if not successful, he quits Tyrol, in the character of a hawker, and conveys into other countries the produce of his own.

“They are tall, strong, and robust, as mountaineers are in general; remarkably cheerful, with great mildness and honesty of character; but keen, with an uncommon share of natural understanding. They are Roman Catholics, and excessively devout, placing not only on the roads, but in their habitations, a number of images, according to the forms of their religion; yet the generality of them are not bigots, for they appear to esteem all strangers who visit them, without attending to their opinions on religion. Like most mountaineers, they are particularly attached to their prince and their country.—In short, whether we consider the inhabitants of this part of the world, or the country itself, a traveller will not find it easy to visit any spot where more circumstances occur to gratify a love of natural history, to enlarge the mind, or to interest the feelings.”



View of the Ammantheater, at Pöbber.

H. Fischer, Son & Co. Lith. 1892

CHAPTER VII.

Antiquities and Curiosities of Nature and Art.

IN enumerating the chief ANTIQUITIES of a country, the mind is naturally led to an ideal survey of its ancient possessors. These two circumstances are so intimately connected, that not merely the discriminative character, but even the very existence of the former, depends upon the latter. This remark is exemplified in the present instance. Gibbon has justly observed, "That if we except Bohemia, Moravia, the northern skirts of Austria, and a part of Hungary, between the Teyss and the Danube, all the other dominions of the house of Austria were situated within the limits of the Roman empire;" and it is within these limits only that monuments of antiquity are to be found. These territories, and Hungary in particular, have been frequently subject to the ravages of war, and many noble specimens of human ingenuity and power have not been exempt from its effects; yet several castles, churches, and monasteries, still remain to "attest the magnificence of their founders." One of the most eminent of these is the cathedral church of St. Stephen, at Vienna, which unites singular pomp and minute decoration; but of this an account has already been given, in the description of the city which it adorns.

The southern parts of the Austrian territory, being near the centre of the Roman power, are proportionally rich in the remains of ancient art; but these have so great a similarity to the antiquities of Italy, that only the two following shall be noticed in this place.

About forty English miles south of Trieste, and near the extremity of a small peninsula, on the east shore of the Adriatic, stands the amphitheatre of *Pola*. It is a large elliptical building with three floors, and rustic arcades, like the outer wall of the amphitheatre at Verona. The length of this ancient edifice, according to *Maffei*, is 416 English feet, and its height is ninety-seven feet. This learned author, however, considers it to have been a theatre, and not an amphitheatre, as it is usually regarded, because the seats only occupy one side, and are formed on the declivity of a hill. It is the only one of the ancient Roman elliptical precincts that now remains entire in its whole circuit. About half the precinct of the amphitheatre at Rome, and much of that at Verona, have long since fallen. The annexed plate affords a clearer idea of this building than any verbal description.

Another of the most noted buildings of this kind is to be seen at *Verona*. This is a spacious edifice, though not so large as the *Coliseum* at Rome. This fabric has not a very imposing appearance at present, as only a small part of the exterior wall is standing, and the rest of the building scarcely rises above the surrounding houses. The seats within are composed of stone, and have been renewed since the middle of the 15th century, and now form the surface of a large inverted hollow elliptical cone. The effect is striking when seen from one of the upper rows, as the whole is capable of accommodating about 22,000 people. A part of these seats is enclosed in a small wooden precinct, as a theatre, in which plays are acted in the day, during summer. This structure is composed of large squared masses of marble from Sant. Ambrosio, about nine miles distant. The soffit stones of the arcades are eight or nine feet long. Large flat bricks also form

some parts of the building, and which are yet uninjured by time, though they have been exposed to the action of the weather for 1700 years. The longer axis of the outer wall of this precinct is 522 English feet. The remaining part of the exterior wall consists of three tier of rusticated arcades, ninety-six feet high. The fourth story of rectangular windows has fallen down.

At what time this building was erected is very uncertain ; but some learned authors have supposed it to be about the first year of the emperor Trajan. The disposition of the seats, and of the stairs leading to them, is better seen in this theatre than in any other. Except the three amphitheatres above mentioned, and one at Capua, which has long since been demolished, there were very few others in the empire, that were built of stone, and they, of course, were incapable of resisting the dilapidating hand of time.

The Austrian empire presents various Alpine scenes, accompanied by glaciers, chasms, and caves, which deserve the attention of the curious traveller. Austria Proper, and the countries on the north of it, contain few scenes of this kind, and the only one which deserves notice in this place, is a most singular assemblage of rocks, near Trantenau, in Bohemia, resembling towers from 50 to 100 feet in perpendicular height. This stony group, which is of great extent, is supposed by some to be the remains of a mountain, the intermediate parts of which have been removed.

One of the principal Natural Curiosities in Hungary is the celebrated cavern near Szadello, about thirty miles north-west of Kaschau. It is very remarkable, and so extensive that the natives assert it runs several miles under the mountains. It does not appear that it has ever been completely explored. It comprises a multiplicity of distinct caves and winding passages, formed by numerous stalactites. So intricate is the labyrinth, that Dr. *Townson*, who visited this part of Hungary a few years ago, says, " that a man once lost in it, though he had lights and food enough to last him a month, would not be able to find his way out." Other writers also speak of the vast dimensions of this cave, and assert that a party remained in it three days without being able to reach the extremity, or find its opening. Near Szalitze, in the same part of the Carpathian mountains, there is another noted cavern which contains a small glacier ; and at Demanovo, in the vicinity of Rosenberg, a curious cave has been discovered, containing numerous bones of wild animals, which are supposed to have endeavoured to take shelter in it, but perished in the attempt. Various other caves exist in the calcareous mountains of Carinthia and the other Alpine regions, which would deserve a particular description in a topographical account of the country. One of the most singular and interesting natural curiosities in these territories is the lake of CZIRKNITZ, which is situated in the Illyrian provinces, eastward of Trieste. It exceeds four English miles in length, but is much less in breadth, and being wholly surrounded by mountains, it is without any visible place by which the waters are discharged. The usual depth is seldom more than five or six feet. In June or July the waters subside, by sinking into a number of caverns in the bottom of the lake ; but in October, or November, when the rains descend more copiously on the adjacent mountains, they issue again from these receptacles, and cover the bed of the lake as before. As soon as the waters have subsided, the natural herbage of the bed grows rapidly, and is subsequently cut and made into hay, to be preserved as winter food for the cattle. This lake, therefore, affords good pasturage or meadow in summer, and abounds with fish in the winter.

Among the Artificial Curiosities of these dominions are the salt-mines at Wieliczka, on the confines of Poland, but these have already been described in the account of that country. Those in the vicinity of Salzburg, now within the western borders of the Austrian territory, are justly ranked among the most stupendous artifi-

cial curiosities in Europe. Here human ingenuity, aided by the energies of Nature, produce the most astonishing effects. The appearance of these subterranean excavations, their effects on the minds of beholders, and the people by whom they are worked, are noticed in the following graphic and animated terms by the chevalier *De Bray*, in his *Tour in the Tyrol*.

“The interior appearance of the mine is very striking. When we were conducted into it, the galleries were illuminated, and, stretching beyond the bounds of sight, they appeared like avenues leading to some subterranean temple consecrated to the infernal deities. Nothing can be more beautiful and impressive than the appearance of these vast caverns, and of the spacious galleries which are passed without danger; where we are struck with the adventurous spirit and industry of man, and observe the miners fleeting past like shadows, or working like Cyclops; where all the elements are employed to snatch those treasures from nature which appear to be inexhaustible; where the thunder, occasioned by blasting the rocks, the noise of waters rushing along the subterranean canals; the profound silence by which the most terrific explosions are succeeded, the dim light of the flambeau, and the glitter of the saline crystals; where, in short, the *tout ensemble* constitute a magic scene, that captivates the imagination, and gives birth to reflection. In the chambers where the rock is blown up, a gallery was erected round the fosse from which the bottom could not be perceived. Ten mines had been charged, and the lights were extinguished before the blast took place. The sombre light which preceded this explosion, the thunders that followed it, and the concussions that were communicated to the side-walls of these dark caverns, and caused their roof to vibrate like the head of an enormous drum, produced an effect beyond the utmost powers of description.” After noticing the machinery and its effects, the same author says, “We seem to have been suddenly initiated into the secret of those great laws of motion which govern the world, and permitted to contemplate the action of those immense wheels which move the machine of the universe.”

The lake of Jesero, situated in the isle of Cherso, is likewise classed amongst the Austrian Curiosities of Nature, as it is said to discharge its waters only once in four or five years. Several curious caverns also exist in that island, in which there have been discovered great quantities of fossil bones, such as those of horses, oxen, and sheep; but none have been recognized to be human.

CHAPTER VIII.

Islands, Colonies, and Settlements.

THE ISLANDS belonging to Austria are neither numerous nor important. The only part of the ocean which washes the shores of this empire is the upper part of the Adriatic; and a few small islands spread along the north-east coast of that sea, from the Gulf of Juarnero to the southern point of Dalmatia, are all to which Austria can lay claim. The principal of these are Veglia, Cherso, Osero, Grossa, Brazza, Lesina, and Melida. **VEGLIA** is an irregularly-shaped island, situated a few miles south of Fiume, producing wine and silk, and also a breed of small horses, much esteemed in the neighbouring countries. There is a town of the same name, with a good harbour and a strong citadel. This island is the most populous on the coast.

CHERSO and **OSERO**, being only separated from each other by a narrow channel, are frequently considered as one island. The channel between them is so narrow, that a communication has been formed by means of a bridge. The general aspect and productions are the same in both. They are together about 60 English miles in length; fertile, abounding with forests, and supplying the ports at the top of the Adriatic with timber. They also contain good sheep-pastures, and export olives, wine, figs, silk, and wool. The climate is mild, and the population, which is about 10,000, is said to be increasing. The principal towns have the same names as the islands.

GROSSA is a long narrow island, south of the above, and stretching nearly parallel to the coast. It is likewise fertile, and similar in its climate and produce to the other islands.—**LESINA** is chiefly remarkable for its fishery of *Sardines*, with which a great part of Greece and Italy is supplied. **CURZOLA**, which is situated further south than Lesina, is principally noted for the resistance made by the women, who repelled the Turks when they invaded it in 1751. The population is estimated at about 6,500. This island also supplied the Venetians with large stores of ship-timber.

BRAZZA is situated south of Lesina. It is about 30 miles long, and from six to nine broad. A great part of it is mountainous and stony, and but little is fit for cultivation. It contains about twenty villages, and 15,000 inhabitants. The chief productions are wine, oil, figs, almonds, and saffron. The crops of grain which it yields are very scanty, and scarcely sufficient to supply the inhabitants for three mouths in the year. Bees and silk are also cultivated; and it has long been noted for its hides and cheese, both of which are in high repute in all the neighbouring parts of the continent. This island has been in the possession of Austria since the Treaty of Campo Formio, concluded in 1809. **MELIDA** is nearly in the same latitude with Ragusa, but a little west of that port. It is likewise fertile in products of the same kind as the other islands.

Austria is alike destitute of **COLONIES** and **SETTLEMENTS**; a circumstance which is sufficiently accounted for, by her want of a naval force.

CHAPTER IX.

Statistical and Synoptical Tables.

TABLE I.

*Statement of the Extent and Produce of the Arable Lands in Austria, according to the Estimate of BLUMENBACH, in 1816.**A metze is equal to about 1½ of a Winchester bushel.*

	Metzen of Lower Austria.		Metzen of Lower Austria.
<i>Bohemia</i> yields, as a yearly average, from 1785, 1,874,241 metzen of wheat, 10,067,145 metzen of rye, 4,149,429 metzen of barley, and 8,278,546 metzen of oats,	24,369,361	average increase at six-fold, (see Blumenbach) then subtracting the seed corn, we have, at least, a total produce of ...	9,000,000
The extent of arable land in this country is estimated at 2,828,427 joch, and taking away one-third as fallow land, 1,885,618 joch remain, whence the average of each joch will be, at least, 13 metzen.		<i>The Province of Austria above the Enns</i> , in which the arable land, according to the measurement of 1789, amounted to 655,274 joch; and by subtracting the fallow, is reduced to 436,849 joch, will yield at the average of 12 metzen the joch	5,242,188
In <i>Moravia</i> , the average yearly produce was reckoned, in 1789, to be 1,581,101 metzen of wheat, 4,741,605 metzen of rye, 2,104,152 metzen of barley, 9,291,146 metzen of oats; altogether 17,718,004 metzen, on 1,714,942 joch of arable land,	17,718,004	<i>Styria</i> , in the year 1789, yielded from 610,417 joch of arable land, 664,811 metzen of wheat, 1,386,441 metzen of rye, 522,486 of barley, 1,906,825 of oats; altogether 4,480,565 metzen. The estimate of Kindermann is still more accurate; according to which, the arable land of <i>Styria</i> yields 664,671 metzen of wheat, 1,364,008 of rye, 522,368 of barley, and 1,899,370 of oats; besides which, the fallow lands, and the marshy places, yield 824 metzen of wheat, 23,837 of rye, 773 of barley, and 8,481 of oats. Then the average is 11 metzen per acre, and the whole harvest	4,484,332
After subtracting 571,647 joch for fallow, each of the remaining 1,143,295 joch yields an average of 15½ metzen.		<i>Carinthia</i> had, in 1789, 205,608 joch of arable, and afforded, as its average annual crop, 154,690 metzen of wheat, 557,966 of rye, 223,010 of barley, and 821,119 of oats	1,756,785
<i>Silesia</i> has 356,520 joch of arable land; subtracting the third for fallow, and 237,680 joch remain; and assuming, on account of its inferior fertility, the average at only 10 metzen per joch, we obtain a total of	2,376,800	So that subtracting the fallow, the remaining 137,072 joch averaged about 12½ metzen.	
In <i>Lower Austria</i> the produce in grain has been estimated, by some authors, at 855,000 metzen of wheat, 1,540,000 metzen of rye, 256,000 metzen of barley, and 3,470,000 metzen of oats; altogether 6,121,000 metzen. This, however, appears by far too little, for as, in the year 1789, the whole arable land amounted to 1,282,576 joch, 388 square klafters, which, after subtracting the fallow, would leave 855,051 joch, this estimate would give but seven metzen to the joch. We will suppose the quantity of land annually devoted to grain only 600,000 joch, and taking the usual quantity of seed sown at three metzen per joch, and the		<i>Crain</i> , at the same period, had 257,596 joch of arable land, and bore 256,918 metzen of wheat, 244,353 of rye, 370,679 of barley, 754,947 of oats; altogether not more than	1,626,897
		In this case, the average crop of each joch, in number 171,730, was not quite 10 metzen.	
		The exact extent of arable land in the <i>Coasting Provinces</i> is not well known,	

Metzen of Lower
Austria.Metzen of Lower
Austria.

but cannot be less than 183,975 joch, which, after subtracting the fallow, is reduced to 122,650 joch, yielding at an average of 12 metzen per joch 1,471,800

We must endeavour to calculate the arable land of the *Lombardo-Venetian* kingdom, from the proportions which were found to exist in the dukedom of Venice. This state had, in 310 square miles, nearly 800,000 joch of arable land, or to each square mile 2,580 joch; the whole kingdom, the extent of which is 781 square miles, may contain, at least, 2,014,980 joch; and, after subtracting 671,660 joch for the fallow, 1,343,320 will remain. Assuming the average crop of this fertile territory, like Moravia, at $15\frac{1}{2}$ metzen per joch, and the whole produce will be 20,821,460

Tyrol and Voralberg, according to a MS. but unauthenticated estimate, which, however, is rather too small than too large, contains 212,000 joch of arable land, and calculating the 141,334 joch which remain, after subtracting one-third for fallow, at only 12 metzen per joch, we have 1,696,008

Galicia, according to the estimates in the reign of Joseph II. contained 5,547,808 joch in tillage, 75,368 in fallow, and 21,024 joch of drained water-courses, bearing crops, amounting altogether to 5,644,200 joch; and as the whole extent of territory was 1,632 $\frac{1}{2}$ square miles, this gives about 3457 joch to the mile. We must now take away 106 square miles, which belonged to Poland, and supposing that, in each square mile of this fertile part, there were 4000 joch of arable, we shall have 424,000 joch to subtract from the former sum, leaving 5,220,200, and taking from this the fallow, 3,480,150 joch remain; and if we only suppose each to yield 10 metzen, the whole amounts to 34,801,500

The produce of *Hungary* is variously estimated. According to Szabo, the peasants in *Hungary* have 217,017 sessions, or 5,551,598 joch. The clergy and nobles, the free cities and privileged bodies, an equal quantity. We may, therefore, suppose 11,103,196 joch of

arable land at 1200 square klafters, of which two-thirds, or 7,402,130 joch, are cultivated, one half sown in autumn, the other in spring, from the autumnal crop 10 metzen, from the spring 12 metzen may be expected, and the whole produce would then be 81,000,000 metzen; we will, however, rather take the smaller estimate of Professor Schwartner, and with him adopt 60,000,000

According to the same method, we may calculate the produce of *Transylvania*, each square mile may here yield 12,000 metzen, (the average in *Hungary* is 12,262 metzen to the square mile,) and hence the 794 $\frac{1}{2}$ square miles which *Transylvania* contains will yield about 9,534,000

In many of the districts of the *military frontiers*, the annual produce is known from official reports; thus in the *military district of Warasdin* in 1801, the crop upon the 256,145 joch of arable land, was only 621,021 Presburg metzen. In the *Sclavonian frontiers* in 1801, from 310,378 joch were obtained 1,169,757 Presburg metzen. In the *district of the Pontoneers* in 1802, from 45,261 joch 306,985 Presburg metzen were obtained. In the *Banat* in 1801, from 244,160 joch, 978,259 metzen; and in the *Transylvanian frontiers* in 1807, from 122,907 $\frac{2}{3}$ joch, 623,422 $\frac{1}{2}$ metzen were obtained. The *Carlstadt district* measures 282,244 $\frac{1}{2}$ joch, and yields at the average of three metzen, including the fallow, 846,733 metzen; and if we estimate the arable land of the *Banat regiments* at 50,000 joch, with an average of four metzen, the harvest will be 200,000 metzen, and the whole military frontiers will give more than 4,746,177

The produce of *Dalmatia*, *Ragusa*, *Cattaro*, and the islands belonging to this government, altogether 360 $\frac{1}{2}$ square miles, is, on account of the insufficient data, difficult to estimate. Supposing that only 6000 metzen grow on the square mile, the whole government will give .. 2,163,000

The aggregate of all these sums gives, as the annual produce of the Austrian empire in the best species of grain, wheat, rye, barley, and oats, a result of 201,808,312

Were we enabled to ascertain with precision the quantity of maize, (particularly abundant in Italy and the south of Hungary, and amounting in Sirmien alone to 720,000 metzen) of rice, (in Italy and Hungary, and about Temeswar, amounting to 17,000 or 18,000 centners,) of millet, (in Hungary, Carinthia, and Moravia,) of buck-wheat, (in Galicia alone, 2,978,710 metzen,) and of other species of grain, we might be able to speak with certainty how far the whole yearly harvest exceeds or falls short of 210,000,000 metzen; but assuming 8,191,678 metzen as the amount of these inferior products, and of the deficiencies in our other estimates, we may fairly state the annual yearly harvest of Austria at the round sum of 210,000,000 metzen, (or 360,000,000 Winchester bushels.)

TABLE II.

Statement of the Extent and Produce of the Austrian Vineyards, according to the calculations of BLUMENBACH, in 1816.

213·3 Joch are equal to 312 English acres, or three English acres are rather more than two Joch.

One Eimer is equal to 15 English Wine Gallons.

	Eimers of Lower Austria.	Eimers of Lower Austria.
<i>Bohemia</i> contained, according to the survey instituted by Joseph II. 4408½ joch of vineyard, the average yearly produce of which was calculated at	26,326	
Each joch yielding somewhat less than six eimers.		
<i>Moravia</i> , on the same authority, contained 50,856 joch of vineyard; according to a former calculation, the annual produce was estimated at 458,542 eimers, but by an average of 27 years, it was found to be only	431,425	
Each joch yielding nearly 8½ eimers.		
<i>Austria below the Enns</i> , had by measurement, in 1789, 78,661 joch, and 1326 square klafters of vineyard, which, according to a recent accurate calculation, produces	2,093,943	
By which it would appear, that in this province, which is peculiarly favourable to the vine, the average produce of a joch amounts to 26½ eimers.		
<i>Austria above the Enns</i> , on account of its soil and climate, has but few vineyards; altogether not above 83 joch, which, on an average of five eimers, will give	415	
<i>Styria</i> , according to measurement, contains 50,759 joch of vineyard, whose produce is very differently estimated. According to Kindermann, it is not above 592,171 eimers. According to Dr. Sartori, in good years, it amounts to 2,000,000. We will take the usual produce, according to Bisinger	1,000,000	
Giving about 20 eimers to the joch.		
<i>The Carinthian</i> vineyards are, like those of the provinces above the Enns, inconsiderable. On the 226 joch devoted to the vine, are produced, according to Dr. Sartori, only from 200 to 300 <i>sturtin</i>	2,500	
<i>Crain</i> , which formerly had above 15,051 joch of vineyard, does not now contain, owing to the parts which have been added to the coasting provinces, above 10,100 joch, yielding about	155,000	
<i>The Coasting Provinces</i> consist of too many separate parts to allow of a general estimate. The counties of Görz and		
<i>Gradiska</i> , which, besides 10,286 joch of vineyard, have a great many vines distributed over them, forming hedges in the meadows and fields, were, many years ago, estimated at 157,564 eimers. The district taken from Crain may be supposed 5051 joch, affording 100,000 eimers. The country about Trieste raises much more than sufficient for its own consumption; and the districts taken from Venetian Friule yield much and excellent wine. The former Venetian peninsula of Istria, reckons 8000 joch, which produces about 120,000 eimers. In the district of Buccari grow yearly, according to Graf Batthyuny, 8000 orns, (9283 eimers.) On the estate of Winodal, from 12,000 to 15,000 eimers. On the islands of Cherso, Ossero, and Veglia, there are, according to Cattani, 18½ Italian square miles of vineyard, yielding annually 35,160 <i>barillen</i> . In the whole of the coasting provinces, we may, as a rough estimate, suppose 29,537 joch of vineyard, giving annually	358,000	
<i>Tyrol</i> has 184,472 <i>morgen</i> of vineyard, whose produce is about	210,000	
<i>The Lombardo-Venetian kingdom</i> , according to Veri, devotes to the culture of the vine in vineyards, about 187,000 Austrian joch, besides which, much other land is planted with vines. The sum total of the produce may be	5,890,000	
<i>The kingdom of Hungary</i> , according to the survey instituted by Joseph, contained 851,690 joch of vineyard. The internal consumption of the country is very moderately estimated at 1,000,000 eimers. The whole produce is by some stated at 30,000,000 eimers, by others, with great probability, at	18,000,000	
<i>Sirmien</i> alone, according to Schwartner, has 106,853 <i>mottiken</i> of vineyard, each yielding three eimers, but according to Schams, 140,000 <i>mottiken</i> , (each 273 square klafters) yielding four eimers, that is, 560,000 eimers, or in good years above 1,000,000.		
<i>Civil Transylvania</i> , by computation, is		

Eimers of Lower
Austria.Eimers of Lower
Austria.

believed to contain 178,500 joch of vineyard, and the produce at least 3,640,000

The Transylvanian Military Frontier, together with the first Walachian, and the Szekler hussar regiments had, in the year 1813, 2295 *achtel* of vineyard, which bear, according to an average of 15 years, about 18,623 Transylvanian eimers, or somewhat more than 3,724

The Slavonian Military Provinces contained, according to Demian, in the year 1804, 11,640 joch, 847 square klafters of vineyard, with the average crop of 187,539

The Pontonocr Battalion District had, in 1802, 1466 joch and 120 square klafters

of vineyard, with a yearly produce of 7,482

The Banat Military frontiers contained, in the year 1804, 10,352 joch of vineyard, and gave 66,896

The whole Croatian Military Frontier, including both the district of Warasdin and Carlstadt, contained, according to Demian, in 1801, 14,887 joch, yielding 150,721

The Dalmatian Government, or Dalmatia, Ragusa, and Cattaro, together with the connected islands, have, by a probable computation, 42,700 joch of vineyard, and give annually 650,000

The island of Brazza alone affords, in moderate years, 100,000 *barillen*.

The aggregate result of all these data gives, as the extent of the whole land devoted to the culture of wine in the Austrian territories, 1,582,364 joch, or 158·23 square miles; and as the annual average produce is 32,873,971 eimers, (or 493,109,565 gallons,) consequently, the average of each joch is 20½ eimers, (or 312 gallons, being about 213 gallons to one English acre.) That this result approaches very closely to the truth, can scarcely be hoped, as the very discordant estimates respecting the vintage of Hungary, and the totally unknown extent of vineyards in many of the provinces, render it very difficult to determine any thing satisfactorily. At the same time, I believe I have chosen the medium between the high and the low estimates, so that my results may fairly be adopted in the want of better data. *Si quid novisti rectius istis, candidus imperti; si non, his utere mecum.*—*Horat.*

TABLE III.

Latitudes and Longitudes of the principal places in the Austrian Dominions.

The Latitudes are all North, and the Longitudes East.

Names of Places.	Latitude.			Longitude.			Names of Places.	Latitude.			Longitude.		
	°	'	"	°	'	"		°	'	"	°	'	"
Arnau	50	27	0	15	37	0	Lemberg	49	51	42	24	8	0
Bergamo	45	42	0	9	38	0	Lintz	48	18	54	14	16	45
Brescia	45	32	0	10	14	0	Mantua	45	8	0	10	46	0
Brixen	46	40	0	11	37	15	Milan	45	28	2	9	11	45
Brunn	49	11	28	16	35	21	Edenburg	47	34	0	16	50	0
Buda	47	29	44	19	2	30	Olmütz	4	33	45	17	9	15
Carlsbad	50	12	0	12	52	0	Padua	45	24	2	11	52	45
Caschau	49	40	0	20	40	0	Pavia	45	10	47	9	9	48
Clagenfurt	46	37	10	14	20	0	Prague	50	5	19	14	25	15
Clausenburg	46	44	8	23	34	43	Presburg	48	8	7	17	10	45
Cremona	45	7	53	10	2	12	Peterwardein	45	26	0	20	30	0
Debretzin	47	31	40	21	37	10	Ragusa	42	50	0	18	10	0
Eger	50	5	0	12	19	0	Salzburg	47	36	0	12	50	0
Eperies	48	58	0	21	15	0	Schemnitz	48	46	0	18	20	0
Esseck	48	34	13	18	42	5							
Frinme	45	20	10	14	26	22	Temeswar	45	15	0	29	30	0
Freyburg	51	14	0	16	16	0	Tokay	48	10	0	21	25	0
Graz	47	4	9	15	26	15	Trent	46	6	26	11	3	45
Hermanstadt	45	47	4	24	4	13	Trieste	45	38	8	13	47	7
Hradisch	49	5	0	17	4	0	Troppan	49	52	0	17	48	30
Innspruck	47	15	13	11	23	45	Udine	46	3	0	12	5	0
Karlsburg	46	4	21	23	34	35	Venice	45	25	32	12	20	57
Kremitz	48	42	3	18	53	45	Verona	45	26	7	11	1	15
							VIENNA	48	12	40	16	22	45

MONIES, WEIGHTS, MEASURES, AND EXCHANGES.

MONIES.

In an Empire embracing so many ancient and independent States, uniformity in the Monies, Weights, and Measures is not to be expected. Those used in the capital, for instance, differ from those employed in several of the Provinces. Vienna, Bohemia, Hungary, and Venice, are different in these respects; but as Vienna and Venice are the chief commercial places in the empire, the following statements will be confined to them.

Monies of Account.

VIENNA.

Accounts are kept at Vienna in Guldens or Florins, Creutzers, and Pfennings. The following are their proportions to each other, and their values in English money, according to the present rate of Exchange.

	s.	d.
1 Pfennig equal to	0	$0\frac{1}{16}$
4 Pfennings equal to 1 Creutzer	0	$0\frac{1}{4}$
60 Creutzers	1	Gulden or Florin = 2 0
The Florin is also divided into Schillings, Groschen, Groschel, and Hellers, in the following proportion, viz.		
	s.	d.
1 Heller equal to	0	$0\frac{1}{16}$
6 Hellers are equal to 1 Groschel	0	$0\frac{3}{16}$
4 Groschel	1	Groschen = 0 $1\frac{1}{2}$
2 $\frac{1}{2}$ Groschen	1	Schilling = 0 3
8 Schillings	1	Florin = 2 0

The *Rix-dollar* or *Rixthaler* current is an imaginary money, equal in value to $1\frac{1}{2}$ Florin; but the *Rix-dollar* or *Rixthaler specie* is a real coin, equal to 2 Florins.

VENICE.

Accounts are kept at Venice in two different kinds of money. The one method is in Liri, Soldi, or Marchetti, and Denari di Lira. The other is in Ducats, Grossi, and Grossetti or Denari di Ducato. These have the following relations to each other.

	s.	d.
12 Denari equal to 1 Soldo equal to	0	$0\frac{1}{4}$
20 Soldi	1	Lira = 0 5
12 Grossetti equal to 1 Grosso equal to	0	$1\frac{3}{125}$
24 Grossi	1	Ducat = 2 $7\frac{1}{2}$
The following is the comparative values of these two monies, in terms of each other: viz.		
1 Ducat is equal to	6 $\frac{1}{2}$	Liri
5 Ducats are	31	Liri
31 Liri	120	Grossi
6 Grossi	31	Soldi
6 Grossetti	31	Denari di Lira.

Coins.

VIENNA.

	Gold.	£	s.	d.
Double Souverain, intrinsic value	...	1	7	9
Souverain	...	0	13	$10\frac{1}{2}$
Half Souverain	...	0	6	$11\frac{1}{2}$
Imperial Ducat	4 $\frac{1}{2}$ Florins	equal to	0	9 $\frac{1}{2}$
Double Ducat	9 Florins		0	18 $\frac{1}{2}$
Quadruple Ducat	18 Florins		1	17 7
Kremnitz Ducat	4 Flo. 32 Creutzers		0	9 5-5892

Silver.

Rix-dollar, equal to 2 Florins, equal to	0	4	$2\frac{1}{2}$
Florin	0	2	$1\frac{1}{2}$
Half Florin	0	1	$0\frac{1}{2}$
Copstick	20 Creutzers equal to	0	0 $8\frac{1}{2}$

There are also pieces of 17, 15, 10, 7, and 3 Creutzers, the values of which are $7\frac{1}{2}$ d. $6\frac{1}{16}$ d. $4\frac{1}{8}$ d. 3d. and $1\frac{1}{2}$ d.

The Copper coins are Creutzers, half Creutzers, and Groschels, or three-quarter Creutzers; with Pfennings and half Pfennings.

VENICE.

Gold.

The coins of Venice are of two kinds; those of the old government, and such as have been introduced since it became subject to Austria. The gold coins of the old Republic, were,

Intrinsic Value.

	s.	d.
Sequin, equal to about 22 Liri, equal to	9	6
Half Sequin	11	Liri = 4 3
Quarter ditto	5 $\frac{1}{2}$	Liri = 2 $1\frac{1}{2}$
Pistole	38	Liri = 16 5
Ducat	14	Liri = 6 0-545

The Sequin bears a fluctuating agio, which has sometimes exceeded 30 per cent.

Silver.

	s.	d.
Scudo Veneto, of 12 Liri 8 soldi, equal to	5	2-775
Half Scudo of 6 Liri 4 soldi	2	7-3875
Quarter Scudo of 3 Liri 2 soldi	1	3-69375
Ducatone of 11 Liri	4	7-6875
Ducato effective of 8 Liri	3	4-5
Pieces of 10 Liri	4	2-625
Lirazze of 30 Soldi	0	7-59375

With other Pieces of 20, 15, 10, and 5 soldi each.

In 1802, the Austrians introduced silver coins of $1\frac{1}{2}$, 1, and $\frac{1}{2}$ a Lira; or in Austrian money, of 18, 12, and 6 Creutzers each.—The Copper coins are Soldi and half Soldi.

COMMON WEIGHTS.

VIENNA.

Gold and Silver Weight.

Gold and Silver are weighed by the Vienna Mark, which is divided in the following manner.

	English grains.
1 Pfennig equal to	16-910156
4 Pfennings are 1 Quintin	67-610625
4 Quintin	1 Loth = 270-5625
2 Loths	1 Ounce = 541-125
8 Ounces	1 Mark = 4329-000

Hence 610 Vienna Marks are equal to 481 English troy pounds; and 640 Vienna ounces are 721 $\frac{1}{2}$ troy ounces.

VENICE.

Commercial Weight.

Two different weights are used in the mercantile transactions of Venice. These are the *Peso grosso*, or large weight, and the *Peso sottile*, or small weight. The division and values of these weights are the following.

	Avoir. lbs.
Peso grosso.	
192 Carats are 1 Ounce equal to	0-0879629
12 Ounces = 1 Pound	1-0555
Peso sottile.	
144 Carats are equal to 1 Ounce, or	0-1 $\frac{1}{8}$
12 Ounces	1 Pound = 0 $\frac{3}{4}$
400 Pounds	1 Carica = 266 $\frac{1}{2}$

Commercial Weight.

The division of this weight, and the value of its several parts in avoirdupoise pounds, are as follow :

			Avoir. lbs.
4 Pfennings are	1 Quintin,	equal to	0.0096488
4 Quintins	— 1 Loth	—	0.0385714
2 Loths	— 1 Ounce	—	0.0771429
4 Ounces	— 1 Quarter	—	0.3085715
4 Quarters	— 1 Pfund, or Pound	—	1.234286
20 Pfunds	— 1 Stone	—	24.68572
5 Stones	— 1 Centner	—	123.4286
4 Centners	— 1 Karch	—	493.7144
250 Pfunds	— 1 Saum of Steel	—	308.5715
275 Pfunds	— 1 Saum of other articles	—	339.42875

The Pfund used by Apothecaries is $\frac{3}{4}$ ths of the Commercial Pfunds, or 6478 $\frac{1}{2}$ English Grains.

The Ounce, when used for weighing Silk and Thread, is divided into 6 Saggi, and these again into halves and quarters. The principal articles which are sold by the large weight, are Brimstone, Caviar, Cheese, Chesnuts, Copper, Feathers, Figs, Fish, Flax, Galls, Hemp, Hides, Honey, Iron, Ivory, Leather, Meat, Mustard Seed, Potashes, Raisins, Steel, Thread, Tin, and Wool.

Those which are sold by the small weight, are principally Almonds, Alum, Aniseed, Arsenic, Borax, Brazil Wood, Capers, Cinnamon, Cinnamon, Cochineal, Coriander, Cotton Wool, Dates, Frankincense, Gums, Ginger, Gunpowder, Isinglass, Nutmegs, and various Spices, Quicksilver, White Lead, Rice, Salt-petre, Silk, Soap, Sugar, Bees' Wax, Sealing Wax, and Wood.

USUAL MEASURES.

VIENNA.

Corn Measure.

		Winch. Bushels.
4 Bechers are equal to	1 Fudermassel, equal to	0.0546875
2 Fudermassels	— 1 Muhlmassel	— 0.109375
2 Muhlmassels	— 1 Achtel	— 0.21875
2 Achtels	— 1 Viertel	— 0.4375
4 Viertels	— 1 Metzen	— 1.75
30 Metzen	— 1 Muth	— 52.5

The Metzen is equal to 3753 English Cubic Inches.

Wine Measure.

		Eng. Wine Gall.
10 Maasses are equal to	1 Viertel, equal to	3.75
4 Viertels	— 1 Eimer	— 15
30 Eimers	— 1 Dreyling	— 450
32 Eimers	— 1 Fuder	— 480

The content of the Maass is 86.3 English Cubic Inches; or very nearly 3 Wine Pints.

Long Measure.

The Foot of Vienna is equal to $12\frac{9}{10}$ English Inches.

The Fathom of 6 Feet is, therefore, 6 Feet 2.7 Inches.

Hence, 80 Feet of Vienna are equal to 83 English Feet.

The common Commercial Measure is the *Ell*, which, at Vienna, is equal to 30 $\frac{3}{4}$ English Inches. Therefore, 27 Ells of Vienna equal 23 English Yards. But, in Upper Austria, the length of the *Ell* is 31 $\frac{1}{2}$ English Inches; and hence, 9 such Ells are equal to 7 Yards.

Superficial Measure.

The Vienna square Foot is equal to 155 English square Inches.

The square Fathom is equal 38.75 English square Feet.

Land is measured by the *Joeh*, which implies as much as can be ploughed by one plough in a day, and is equal to 1600 Vienna square Fathoms, or 6889 English square Yards, which is 1 Acre, 1 Rood, 27.75 Perches.

VENICE.

Corn Measure.

Grain is sold at Venice by the *Staja*, which is equal to 2.4 Winchester Bushels, or 100 Staji are equal to 30 Winchester Quarters. Flour is sold by the *Staja* of 33lbs. *Peso Grosso*.

Oil Measure.

Oil is sold either by Weight or Measure. when sold by weight the *Peso Grosso* is used; and

25lbs. are equal to 1 Miro, equal to $26\frac{7}{8}$ lbs. avoird.

40 Miri — 1 Migliajo — 1055 $\frac{3}{8}$

When sold by measure, the Miro is equal to 30 $\frac{1}{2}$ lbs *Peso Grosso*, or nearly..... 4.5 Eng. Gall.
40 Miri, or 1210lbs. are equal 1 Migliajo, equal to 180 gall.

Wine Measure.

		Eng. Wine Gall.
4 Secchie are equal to	1 Quartari, equal to	0 $\frac{1}{2}$
4 Quartari	— 1 Bigoncia	— 1 $\frac{1}{2}$
4 Bigoncia	— 1 Amphora	— 7 $\frac{1}{2}$

A Bigoncia of Brandy is only 14 Secchie, or $1\frac{5}{8}$ English Gallons.

Long Measure.

Two kinds of *Braccio* are also in common use here, the large one for Woollens, the other Silks.

The large *Braccio* is equal to 26 $\frac{3}{4}$ English Inches.

The small *Braccio* — 24 $\frac{1}{2}$

The Venetian Foot is — 13 $\frac{1}{2}$

Hence, 27 large Bracci — 20 English Yards.

216 small Bracci — 149 ditto.

36 Venetian Feet — 41 English Feet.

EXCHANGES.

(October, 1820.)

VIENNA.

Vienna Exchanges with the following places, viz.

Amsterdam at	137 Rixthalers for	109 Thalers current
Cadiz	254 Florins	100 Ducats of Exg.
Constantinople ..	77 Florins	100 Piastres
Genoa	66 Soldi	1 Florin
Hamburg	145 Rixthalers....	100 Thalers Banco
Leghorn	62 Soldi	1 Florin
London	10 Florins effec.	1 Pound Sterling
Paris	116 Florins	300 Francs
Venice	128 Rixthalers ...	100 Ducats Banco

VENICE.

Venice Exchanges with the following places, viz.

Amsterdam at ...	1 Ducat Banco for	94 pounds Flemish
Constantinople	76 $\frac{1}{2}$ Cents	1 Piastre
Genoa	94 Soldi Banco ...	1 Scudo di Cambio
Hamburgh ...	1 Ducat Banco ...	85 Pounds Flemish
Leghorn	100 Ducats Banco	104 Pesos of 8 rials
Lisbon	537 Centimes	1 Milrea
London	26.30 Ital. Livres ...	1 Pound Sterling
Paris	102 $\frac{1}{2}$ Cents	1 Franc
Vienna	100 Ducats Banco ..	193 Florins

EXTRACTS FROM THE ACTS OF CONGRESS,

IN FAVOUR OF AUSTRIA.

From the Treaty between Russia and Austria, signed at Vienna, 3d May, 1815.

ARTICLE I.—“ His Majesty the Emperor of all the Russias cedes to His Imperial and Royal Apostolic Majesty, the districts which were dismembered from Eastern Galicia, in virtue of the Treaty of Vienna, of 1809, from the circles Zloczow, Bzeczan, Tarnapol, and Zalesczyk ; and the frontiers on this side, shall be re-established as they existed previous to the date of the said Treaty.”

ARTICLE II.—“ His Imperial and Royal Apostolic Majesty, shall possess, in full property and sovereignty, the salt-mines of Wieliczka, and the territory belonging to them.”

ARTICLE III.—“ The *Thalweg* of the Vistula, shall separate Galicia from the territory of the free town of Cracow. It shall also form the frontier between Galicia and that part of the ancient Duchy Warsaw, united to the dominions of His Majesty the Emperor of all the Russias, as far as the environs of the Town of Zawichost.

“ The land frontier from Zawichost to the Bug, shall be determined by the line designated in the Treaty of Vienna, of 1809, with such modifications as, by common consent, it may be thought necessary to introduce.

“ The frontier from the Bug, shall be re-established on this side, between the two empires, such as it was before the said Treaty.”

From the General Treaty signed at Vienna, 9th June 1815.

ARTICLE XCIII.—“ In pursuance of the renunciations agreed upon by the Treaty of Paris, of the 30th May, 1814, the Powers who sign the present Treaty, recognize His Majesty the Emperor of Austria, His Heirs and Successors, as legitimate Sovereign of the provinces and territories which had been ceded, either wholly or in part, by the Treaties of Campo Formio of 1797, of Luneville of 1801, of Presburg of 1805, by the additional Convention of Fontainebleau of 1807, and by the Treaty of Vienna of 1809 ; the possession of which provinces and territories His Imperial and Royal Apostolic Majesty obtained in consequence of the last war ; such as, Istria, Austrian, as well as heretofore Venetian Dalmatia, the ancient Venetian isles of the Adriatic, the mouths of the Cattaro, the city of Venice, with its waters, as well as all the other provinces and districts of the formerly Venetian States of the Terra Firma, upon the left bank of the Adige, the duchies of Milan and Mantua, the principalities of Brixen and Trento, the county of Tyrol, the Voralberg, the Austrian Frioul, the ancient Venetian Frioul, the territory of Montefalcone, the government and town of Trieste, Carniola, Upper Carinthia, Croatia on the right of the Save, Fiume, and the Hungarian *Littorale*, and the district of Castua.”

ARTICLE XCIV.—“ His Imperial and Royal Apostolic Majesty shall unite to His monarchy, to be possessed by Him and His successors, in full property and sovereignty ;

1. Besides the portions of the Terra-Firma in the Venetian states mentioned in the preceding Article, the other parts of those states, as well as all other territory situated between the Tessin, the Po, and the Adriatic sea,

2. The valleys of the Valteline, of Bormio, and of Chiavenna.

3. The territories which formerly composed the republic of Ragusa.”

ARTICLE XCV.—“ In consequence of the stipulations agreed upon in the preceding Articles, the frontiers of the states of His Imperial and Royal Apostolic Majesty, in Italy, shall be :

1. On the side of the states of His Majesty the King of Sardinia, such as they were on the 1st of January, 1792.

2. On the side of the states of Parma, Placentia, and Guastalla, the course of the Po, the line of demarcation following the *Thalweg* of the river.

3. On the side of the states of Modena, such as they were on the 1st of January, 1792.

4. On the side of the Papal states, the course of the Po, as far as the mouth of the Goro.

5. On the side of Switzerland, the ancient frontier of Lombardy, and that which separates the valleys of the Valteline, of Bormio, and Chiavenna, from the cantons of the Grisons, and the Tessino.

In those places where the *Thalweg* of the Po forms the frontier, it is agreed, that the changes which the course of the river may undergo, shall not, in future, in any way affect the property of the islands therein contained.”

KINGDOM OF PRUSSIA.

CHAPTER I.

Name—Situation—Boundaries—Extent—Population—Original Inhabitants—Progressive Geography—Present Division, and Distribution of the Inhabitants.

THE NAME of this kingdom was derived from the *Pruzzi*, a tribe of the ancient Scythians or Sarmathians, by whom a part of the present dominions was possessed at an early period of their history. Other authors suppose it to have originated in a union of Russia with the Slavonic word *Po*, signifying near. The appellation would therefore be Po-Russia, easily modified into *Prussia*, and implying the people or country near Russia.

Prussia occupies a great part of northern Germany, and borders on the south of the Baltic. It now spreads, with little interruption, from the confines of Lithuania to those of the Netherlands; being washed at the one extremity by the Neimen, and at the other by the Rhine and the Moselle. The present dominions of Prussia, are BOUNDED by Russia and the Baltic, on the north; Poland on the east; the Austrian empire and the kingdom of Saxony on the south; the Netherlands on the west; and the kingdom of Hanover, with the Duchy of Mecklenburg, on the north-west.

From north-east to south-west, Prussia extends through a space of about 750 miles. Its breadth is very unequal, and in some places it does not exceed 100 miles; in others it is 300. In one place it reaches from the Baltic to the southern point of Silesia, below the 50th degree of latitude. The extremity of the Grand Duchy of the Lower Rhine, which now forms a part of the kingdom, also stretches nearly to the 49th degree.

The whole extent of the Prussian dominions, according to the statement of *Hoffmann*, is 115,795 English square miles, or 74,108,800 British statute acres. The population, in 1817, was 10,536,570; which is about 91 persons for each square mile, or rather more than seven acres for each individual.—The following statement shows the rapid increase of this population during the latter period of its history. In 1688, it was stated at one million and a half; in 1713, it was 1,620,000; at the death of Frederick William, in 1740, it had increased to 2,200,000; and in 1786, it was 5,800,000. On the accession of his present majesty, in 1797, the population of his dominions was 8,700,000. About *one-fourth* of the inhabitants reside in the cities and towns; and the other three fourths are distributed over the country in villages and farms.

The ORIGINAL POPULATION of Prussia, according to Pliny and Tacitus, consisted of some Gothic tribes, which were expelled from the more eastern regions by

KINGDOM OF THE NETHERLANDS

Long East from Greenwich

10

12

11

16

18

20

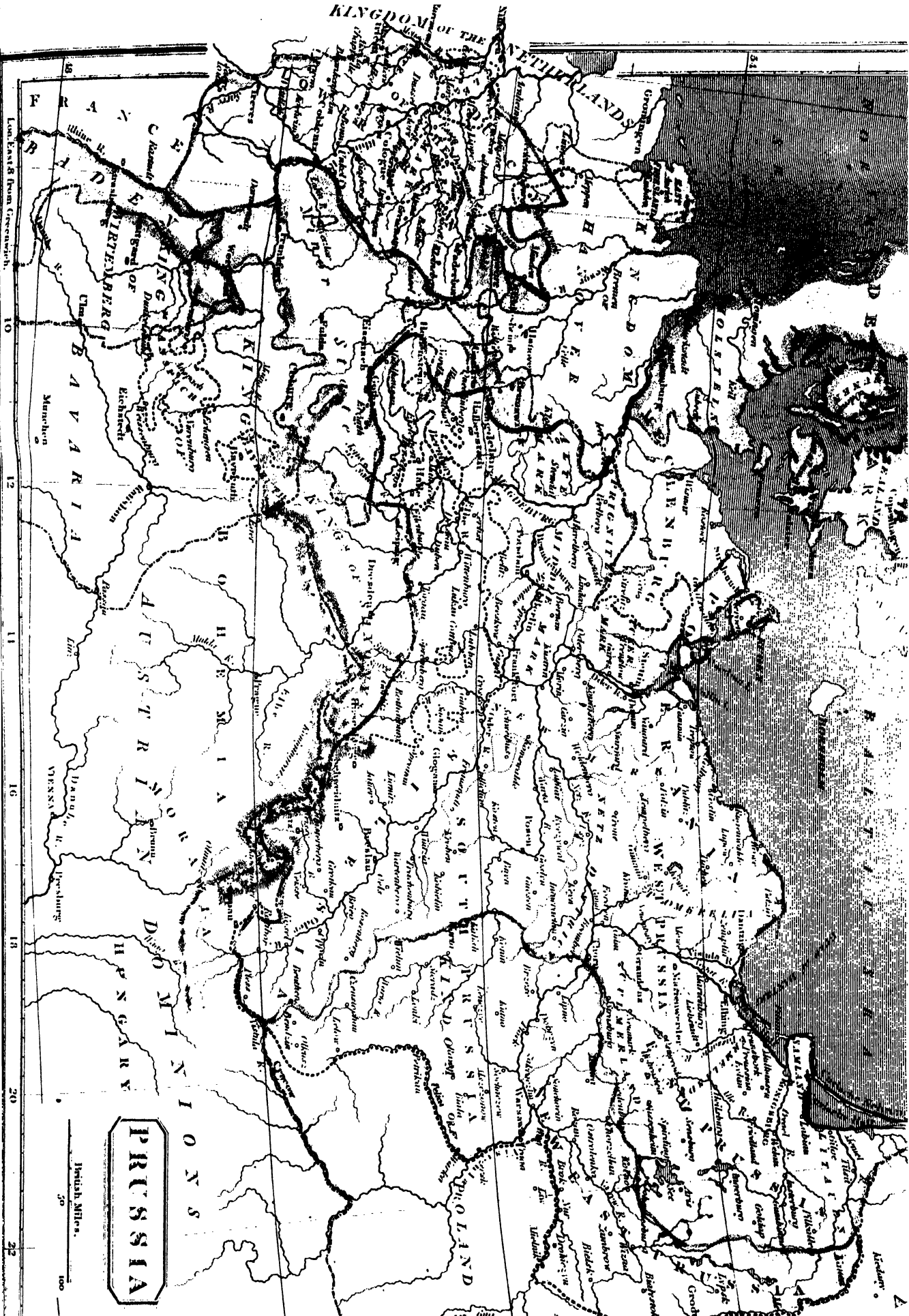
22

PRUSSIA

British Miles.

50

100



the Slavonians. Among these the *Peucini* and the *Æstii* have been mentioned. But at what period Prussia was first possessed by these people is very uncertain. The amber procured from *Æstii*, was in high estimation in the days of Theodoric, and the Slavonic tribes generally pressed towards the west, when the ancient Goths crowded to the more inviting regions of the south. This was about the era of the downfall of the Roman empire.—These were intermixed with others of a Slavonic origin, especially the *Poles*; and at subsequent periods, the population of Prussia received great accessions from the Revocation of the Edict of Nantes, in 1685, and the persecution of the protestants in the archbishopric of Salzburg, in 1732. From the union of these the present inhabitants have principally descended.

To attempt to trace the PROGRESSIVE GEOGRAPHY of these territories, through the early and middle ages of their history, would be to enter a labyrinth, the windings of which, all the art of modern research cannot, perhaps, unravel. The present sketch shall therefore be confined to modern times. The original power was the Dukedom of Brandenburg, which Frederick William, surnamed the Great, compelled the king of Poland to declare an independent state, in 1656. Prussia first became a Kingdom on the 18th of January, 1701. By the peace of Utrecht, in 1713, the king of Prussia obtained Spanish Guelderland, with the Sovereignty of Neufchatel and Valengin; and at the peace of Stockholm, which was concluded about seven years afterwards, he acquired Stettin and Pomerania, with two small islands. Frederick the Great conquered the extensive province of Silesia with Glatz, from the house of Austria, and annexed them to his former possessions, in 1742. He also took possession of East Friesland about two years afterwards. Under this great monarch, Prussia became one of the most powerful states in Europe; and the *seven years' war*, from 1756 to 1763, put the strength of the kingdom, as well as the skill and courage of the monarch, to a severe trial. The object was to reduce the king of Prussia to a Margrave of Brandenburg; but Frederick gained nine great battles, and not only maintained his kingdom entire, against the united power of Austria, the empire of Germany, Russia, France, and Sweden, but rendered Prussia both respected and feared. By the first partition of Poland, in 1772, Prussia obtained the territory since called West Prussia. The Margraviate of Anspach and Bayreuth was annexed to the kingdom by purchase, in 1791; and Southern Prussia was gained by the second partition of Poland, in 1793. The dominions of Prussia were also considerably augmented by the final dismemberment of that kingdom in 1795; while, in addition to the extent of territory then obtained, all the principal ports on the shores of the Baltic, which had previously belonged to Poland, were acquired. Various other accessions had also been made in the south-west of Germany, till the Prussian monarchy stretched beyond the Rhine. But this growing power, which had been accumulating province after province, for a series of years, was now about to experience a reverse.

By the peace of *Luneville*, which was concluded on the 9th of February, 1801, the Rhine became the boundary between France and Germany, and part of the Grand Duchy of Cleves, possessed by Prussia on the left bank of that river, was then annexed to France. But the former kingdom was indemnified by the secularized possessions of Paderborn, Hildesheim, part of Munster, and some other places. In 1805, the extent of the Prussian territories was stated at 119,000 English square miles, and its population at more than nine millions. In that year, the neutrality of Prussia was violated by the march of a French army through her territorial dominions of Anspach. A war between the two powers was the consequence, and by a treaty of adjustment, entered into on the 15th of December, Prussia was put in possession of Hanover, in exchange for the following territories; viz. 1. That part of the Grand Duchy of Cleves, which was situated on the right

bank of the Rhine; and which Buonaparte assigned to *Murat*, as Duke of Cleves and Berg.—2. Anspach and Bayreuth were exchanged with Bavaria for Berg, which was annexed to the Duchy of Cleves.—3. Neufchatel and Valengin were given to M. Berthier, who was made prince of Neufchatel and Valengin.

In the autumn of the following year, another war broke out between France and Prussia, the disastrous consequences of which soon became apparent. Buonaparte entered Berlin in October, and many of the strong places in Prussia were in possession of the French before the end of the ensuing year. Dantzic surrendered in May, 1807, and the reduction of Königsberg, the ancient capital, and other places, completely annihilated all hopes of success in the conflict, and induced Prussia to sue for peace, which was concluded at *Tilsit*, on the 9th of July, 1809. By this treaty Prussia lost about one half of her territories. The following cessions were made.—1. The *Westphalian* provinces, which were erected into a kingdom for *Jerome* Buonaparte.—2. *Warsaw*, which was made into a Grand Duchy, and constituted part of the kingdom of Saxony.—3. Dantzic was declared a free town.—4. The Polish province of Bialystok was ceded to Russia;—and 5th, the ports of the remaining territories were to be closed against England. Subsequently to these diasters, a statement which appeared in a German journal, in 1809, assigned to Prussia a territory of 59,150 square miles, and a population of 4,559,550 individuals.

This reduction of territory, however, was not the only humiliation to which Prussia was obliged to submit. Large bodies of French troops were quartered in the remaining dominions, which were impoverished by the most oppressive contributions, and the king was compelled to join the French against the emperor of Russia, who was his former friend and ally. These indignities were severely felt by the Prussian monarch, but rather than remonstrate strongly when redress was not to be expected, he bore them with a philosophical calmness, inspired by the hopes that a day of retribution would come. Anticipating such an event, he endeavoured to maintain a military spirit among his subjects, as far as the jealous vigilance of the French would allow him, and to prepare them for war, when circumstances should present a prospect of success. With this view, he encouraged, through his minister Baron *Von Stein*, the patriotic association, called the “League of Virtue,” which originated at Königsberg, in 1808; and promoted the formation of those Volunteer Corps, which constituted the gallant legion commanded by Major *Von Lützow*. Hence, when the spirit of patriotism began to show itself in Germany, the sacred flame burst forth in Prussia, and she was the first who joined the coalition in the cause of freedom, in 1813; adopting an expression as a motto, which was at once strongly indicative of her feeling for the past, and her presage of the future—“*honourable peace, or glorious destruction.*” The events which succeeded each other in rapid succession, and led to the *Pacification of Paris*, on the 30th of May, 1814, and the subsequent arrangements of the Congress of Vienna, need not be enumerated. By these arrangements, Prussia gained all her lost territories between the Rhine and the Elbe, with the exception of Anspach and Bayreuth, which were retained by Bavaria, instead of Berg; and Hildesheim, which was given to Hanover. Prussia also recovered a portion of the Duchy of Posen, that made a part of the Grand Duchy of Warsaw. Besides these, she obtained the following additions.—1. About half the kingdom of Saxony.—2. Swedish Pomerania.—3. Orange Nassau, in exchange for Luxemburg,—and 4. a large accession of provinces on the Rhine. By the second General *Pacification* of Paris, on the 20th of November, 1815, Prussia acquired an increase of territory on the French frontier, which has raised her possessions and population to a greater height than at any former period of her history.—See extracts from the acts of Congress, which follow the account of this country.

A part of the Prussian Monarchy is situated within the confines of Germany, and forms a distinguished portion of the Germanic confederation. The other part is entirely independent of that political body. Prussia is now divided into *ten* provinces, which, with their extent, population, chief towns, and the number of inhabitants in each, are as follow.

PROVINCES IN GERMANY.

Provinces.	Extent in Eng. sq. miles.	Population.	Chief Towns.	No. of Inhabitants.
Brandenburg	17,227	1,297,795	BERLIN	180,000
Pomerania	13,018	700,766	Stettin	20,000
Silesia.....	16,560	1,992,598	Breslau	70,000
Duchy of Saxony	10,411	1,214,219	Magdeburg ..	30,500
Westphalia	8,648	1,074,079	Munster.....	13,000
Duchy of Juliers, Cleves & Berg ..	3,634	935,040	Cleves	5,000
Grand Duchy of the Lower Rhine..	6,312	972,724	Cologne	39,000

PROVINCES OUT OF GERMANY.

Provinces.	Extent in Eng. sq. miles.	Population.	Chief Towns.	No. of Inhabitants.
Eastern Prussia	16,146	919,580	Konigsberg ..	55,000
Western Prussia.....	10,695	581,971	Dantzic	45,000
Grand Duchy of Posen ..	12,374	847,800	Posen.....	15,000
Total....		115,025		
		10,536,572		

The difference between this aggregate area of the provinces, and that already given as the total area of the monarchy, arises from the rivers and lakes, which divide some of the provinces, being included in the general result, but omitted in estimating the provinces separately.

The distribution of the Inhabitants in the Prussian states is very unequal. According to the statement of M. *Demian*, in a work lately published at Berlin, the circle of Dusseldorf, on the left bank of the Rhine, contains 527 inhabitants to each square geographical mile; and on the right bank 246 on the same space. The circle of Lauban, in Upper Lusatia has 500 inhabitants to each mile. The circle of Aix-la-Chappelle has 300; that of Cologne 287; of Cleves 250; of Erfurth 219; of Minden 212; of Reichenbach and Merseburg 187; while the provinces of East and West Prussia have only 69; and the circle of Potsdam 81. In the circle of Frankfort on the Oder there are about 100 to each square mile. With the exception of a part of Upper Lusatia, the recently acquired provinces of Prussia are three or four times as populous as the older parts of the monarchy, which include some of the most sandy and desolate districts in Europe.

CHAPTER II.

Outlines—General Surface—Mountains—Rivers—Canals—Lakes—Climate—Soil—Culture—Productions.

THE OUTLINES of Prussia are in a great measure formed of arbitrary lines, except where they border on the Baltic, which stretches from the north-eastern point above Memel to the western limit of Pomerania. Scarcely any country, of equal extent, has a more irregular or extensive frontier; but it is hardly ever formed by the natural boundary of a river. The outlines of the kingdom do not, therefore, admit of verbal delineation. They must be ascertained by consulting a Map.

The general SURFACE of the Prussian dominions is that of a flat country, frequently undulated with gentle hills, but never rising into stupendous mountains, nor presenting any of the features of Alpine grandeur. The southern part of Silesia, which is divided from Moravia and Bohemia, by a branch of the Carpathian chain, which sends its ramifications into that country, is the most diversified part of the kingdom, and is frequently rendered abrupt and broken by the rapid interchange of hill and valley. The eastern side of Silesia participates with the Grand Duchy of Posen in all the properties of an extensive plain, which, with the other regions between it and the Baltic, constitute the grand basin of the Oder. The principal detached hills in Silesia, according to Busching, are Spiltzberg and Gratzberg. The countries approaching the Baltic are level and marshy. Many parts of the Prussian landscape abound with forests, particularly Prussia Proper, and the districts of Silesia bordering on Hungary, where forests clothe the range of hills that forms the barrier between the two countries. The south-western regions, in the vicinity of the Rhine, also contain many forests, and morasses and pools abound in various parts, besides the eastern district.

Several large RIVERS intersect these dominions, and not merely fertilize the soil, but afford the means of an extensive inland navigation. Most of them, however, originate in foreign sources, and are received into the kingdom with more than half their accumulated waters. The ODER and the PREGEL, indeed, may be considered as Prussian rivers. The former springs from the mountains in the northern part of Moravia, soon after which it enters the southern parts of Silesia, flows through the middle of that province, and crosses Brandenburg and Pomerania, and falls into the Grass-Haff, after having passed through an extent of nearly 400 miles. The Pregel originates in some lakes near the south-east extremity of the dominions, and passes by Königsberg into the northern end of the Frische-Haff. The SPREE rises in Saxony, flows through Berlin, and enters the Elbe. The VISTULA and the MEMEL likewise complete their course by flowing through this kingdom; the former into the Frische-Haff, and the latter into that of Curische-Haff. The NETZE and the WARTA are two considerable rivers running from east to west, through the Grand Duchy of Posen, till they unite above Landsberg, and subsequently pour their confluent waters into the Oder. The *Weser*, the *Rhine*, and the *Moselle*, with some of their tributary streams, also intersect the western parts.

CANAL Navigation, which is the genuine offspring of an extensive domestic commerce, has not yet made much progress in Prussia, though scarcely any country presents fewer obstacles to its accomplishment. The Netze and the Vistula

are united by a canal, which enters the latter river near Bromberg. Other small canals also intersect some parts of the kingdom. One, for instance, connects the capital with the *Oder* on the east, and another with the *Elbe* on the west.

LAKES and pools are numerous in the Prussian territories, and not only diminish the extent of the productive surface, but add to the insalubrity of the climate. These are chiefly in the eastern regions, where the number is supposed to exceed 400. Many are also spread over the surface of Pomerania, Bradenburg, and the other parts of the western regions. One of the largest of these is the *SPELDING-SEE*, situated in the south-east of Prussia Proper; and, including its several creeks, spreading more than 20 English miles in each direction. Besides these, the kingdom of Prussia presents many singular sheets of water, at the estuaries of some of its principal rivers. In the German language these are called *Haffs*. One of these almost insulated portions of the sea, denominated *Grass-Haff*, is situated in the north-west point of Pomerania, at the mouth of the *Oder*. A second extends from Elbing to Königsberg, and is separated from the Baltic, to which it is nearly parallel, by a narrow slip of land, except in a small part, where it communicates with that sea. This is styled *Frische-Haff*. It is about seventy English miles in length, and from three to ten in breadth; but it is not of sufficient depth to admit ships of large burden. The bank which separates it from the Baltic is said to have been thrown up by tempests about the end of the 12th century. Another of these gulfs commences a few miles north-east of the last, stretches northward, and enters the sea opposite Memel. This is called *Curische-Haff*; and is broadest at its southern extremity, but very narrow towards the opposite end. Its length is nearly 60 English miles, and its greatest breadth about 30. The space between it and the sea is likewise very narrow. The *Curische-Haff* is subject to frequent storms, which, in conjunction with its numerous shoals, render the navigation dangerous.

Prussia presents a great variety of CLIMATE, the prevailing characteristics of which are coldness and moisture. The lakes, forests, and marshes, render some places insalubrious, particularly Prussia Proper, where the autumn is often deluged with rain, and winter prevails for more than half the year. Silesia is the most pleasant and healthy province in the kingdom, but in the south-western parts, which border on the Carpathian chain, the winters are long and severe. In some of the most favoured districts of this province the temperature is sufficient to produce the grape, but not in that perfection which it attains in more southern climes. Brandenburg and Pomerania are principally sandy and marshy plains; and the climate is moist and variable. The south-western regions stretch into a lower latitude, and enjoy a more favourable temperature along the banks of the Rhine than near the shores of the Baltic.

The SOIL of Prussia, particularly in Brandenburg and the adjacent districts, is sandy and barren. In other parts it is often marshy and unfit for cultivation. Towards both extremities, however, it is more loamy and productive, and yields greater quantities of the common vegetables. Silesia is one of the most fertile of the old provinces. Some of the lately acquired districts, near the banks of the Rhine, possess a more genial soil as well as climate, and only require skilful culture to render many parts of them very productive.

AGRICULTURE has made but little progress; and the implements by which it is performed are still rude in their construction, and but ill adapted to a thorough tillage of the ground. These, with the want of inclosures, and the scanty crops that meet the traveller's eye in all directions, are sufficient proofs that much remains to be accomplished before the soil of Prussia will be made to yield its full produce. The tenure of the land, both here and in many other parts of the continent, is inimical

to a highly-improved state of cultivation ; for where a part of each state is laid out in small portions, to be cultivated by the peasants for their own subsistence, and the remainder is cultivated to fill the capacious granaries of the seigneur, all stimulus to individual improvement, as well as the power of accomplishing it, is destroyed. The best cultivated districts in all parts of the globe incontrovertibly are those where the greatest skill and capital are employed for the advantage of their possessors.

Regular returns have been obtained from most of the provinces relative to the manner in which the land is appropriated ; and in others this distribution has been estimated. The result is,

	<i>Eng. Acres.</i>
Under the Plough.....	29,224,741
Under Garden Culture.....	295,302
In Vineyards	36,908
Meadows and Pasture	14,672,000
Woodlands and Plantations.....	17,574,294
Total	<u>61,803,245</u>

The difference between this total and that of the extent of the Provinces, as stated under the head of *Division*, in the preceding Chapter, amounts to 11,800,000 acres. These are occupied by rivers, lakes, ponds, roads, cities, towns, and villages ; or consist of land which is considered as unfit for cultivation.

The **VEGETABLE PRODUCE** of the Prussian territory embraces all the common kinds of grain, with the various species of fruit and culinary vegetables that are usually raised in similar climates. Fruit-trees, however, are scarce. In many of the sandy parts, buck-wheat, rye, turnips, and potatoes are almost the exclusive objects of the farmer's attention ; but in Silesia, where the land is often let in farms, as in England, and the peasants are paid for their labour in the same manner, the cultivation is superior, and the crops more varied and abundant. The small returns of the usual crops afford a strong evidence of the unproductiveness of the soil, or the imperfect state of agriculture. The average increase is stated at six to one for wheat, five and three quarters for barley, four for rye, and four and a half for oats. In addition to the various plants which are cultivated for food, the Prussians grow several as articles of commerce. Among these are hemp, flax, and tobacco ; flax is the most important, and besides being universally cultivated by the peasants for their own use, about 10,000 tons are annually produced for sale, nearly two-thirds of which are grown in Silesia.

Madder and woad are also cultivated ; and hops are produced in sufficient abundance for the consumption of the kingdom. The average quantity is stated at 550,000 bushels, being sold by measure.

Since the acquisition of the Rhenish provinces, *wine* is the most important of the Prussian products. They yield various kinds of a good quality ; and the average quantity is estimated at 100,000 hogsheads.

The Prussian horses differ little from those of the adjacent districts, but are generally considered as inferior to the Polish, for the Prussian cavalry are chiefly supplied from that country. The domestic cattle are likewise the same as in the other parts of northern Germany. Silesia, Saxony, and the provinces near the Rhine, are the best adapted for supporting a superior breed of sheep ; and the increase of Merinos has greatly augmented both the quantity and quality of the wool yielded by these districts. M. *Krug* has lately given the following estimate of the live stock in the Prussian States ; viz.

Horses	1,661,800
Cattle	5,252,820
Sheep and Lambs.....	11,230,000
Swine	2,640,000
Goats	181,000
Asses and Mules	9,680
Bee-hives	521,000

Suitable as a great portion of the Prussian territories is for breeding sheep, they are not *one-third* so numerous in Prussia as in England and Wales ; for the former country is nearly twice as extensive as the latter, while the sheep are *little* more than half those kept in South Britain.

The *Urus*, a species of large wild cattle, which range through the forests of Lithuania, are also to be found in the eastern parts of Prussia ; nor is the bear, the elk, and the wild boar unknown, The lynx is the most common of the ferocious animals in the colder regions. Game is plentiful in many places ; and the rivers, lakes, and adjacent sea, furnish almost all kinds of fish common to that division of the continent. Sturgeon of a large size are sometimes caught in the Oder, and the *murana*, which is a species of lamprey, is said to be peculiar to Pomerania, and some other parts of the Prussian dominions.

The MINERALOGY of the various states which now compose the Prussian monarchy is neither greatly varied nor abundant in its produce. *Gold* and *silver* have been discovered in the southern parts of Silesia, but the mines were not sufficiently rich to defray the expense of working. *Copper* and *lead* mines are still worked ; but the chief mineral products are iron, and there is hardly a province where it is not found. In many of them mines of this metal are worked, but not to the extent of which they are capable. The produce amounts to about 120,000 tons, and is chiefly applied to domestic consumption, from the want of an easier access to the ocean. *Coal* is likewise found in many districts, particularly in Silesia, Saxony, Westphalia, and near the Rhine. The most extensive works of this kind belong to the crown ; but the whole quantity raised does not much exceed 300,000 Chaldrons. *Salt* is also one of the most valuable fossil products of Prussia, and is obtained in many parts. The total yearly produce is about two millions of bushels.

Several varieties of precious stones, as agates, jasper, rock-crystals, and some other kinds, are found in the southern mountains of Silesia. The most peculiar fossil product of Prussia, for which it has been celebrated from the earliest times, is *Amber*. This is chiefly found near Pillau, on the shores of the Baltic, and on the narrow neck of land which divides the Frische-Haff from the sea. It is sometimes thrown on shore during storms ; but is generally obtained in lumps, from pits of 90 or 100 feet deep, where it is found on a species of coal. It often contains insects and leaves imbedded in its substance ; which has caused it to be considered as a vegetable product, mineralized by some unknown operation of nature. The supply with which Prussia has long furnished all other nations is very great, and adds about £5000 annually to the royal Revenue. The aggregate value of the minerals yielded by Prussia, a few years ago, was estimated at £375,000.

Prussia possesses few MINERAL WATERS, of any celebrity ; and previously to the late accessions, there was only one of deserved repute. This was a hot spring at Warmbrun, near Hirschberg, in Silesia. But the mineral springs at Aix-la-Chapelle, which have been celebrated from the days of Charlemagne, are situated in the Grand Duchy of the Lower Rhine, and are now included within the Prussian dominions.

CHAPTER III.

Principal Cities, Towns, and Buildings.

THE capital of the Prussian monarchy is BERLIN, situated in the province of Brandenburg, on the river Spree; and though not one of the largest, it is one of the handsomest cities in Europe. It is composed of several distinct towns, seated on both banks of that river. The streets are wide, clean, and straight, and the houses either built of stone, or stuccoed, so as to resemble it. Dr. Neale, contrasting Berlin with Hamburg, says, "None of the offensive peculiarities in the appearance of the latter city are here visible; the traveller, in the course of sixty miles, seems to have borrowed the wings of time, and outstripping the slow and gradual progression of the arts for four centuries, finds himself, on a sudden, placed as it were in the midst of an Italian city, surrounded with wide and dry streets, spacious squares, avenues, bridges, porticoes, palaces, triumphal arches, statues, and cupolas, and instead of the jutting abutments of mean brick buildings, beholds on all sides the ample proportions of stately edifices—the triumph of human industry over the sterility of nature, a modern Palmyra raised by the wand of an enchanter amidst the hyperborean deserts of Brandenburg."

Most of the houses are four or five stories high, and the streets are wide, and many of them shaded with lime-trees. The foot paths are well secured with posts and chains to protect the foot passengers from the carriages and sledges. As the soil on which the city stands is a dry sand, heavy rains are soon absorbed, and the atmosphere of Berlin is generally dry and pure, but the changes of temperature are often great and sudden.

Berlin contains many handsome churches, palaces, and other public buildings. Among these, the magnificent cathedral, the royal castle, the university, formerly the palace of Prince Henry, the building appropriated to the Academy of Sciences, and the Italian Opera House, which is capable of containing 6000 spectators, are all splendid buildings. Berlin also contains a noble and well-stored arsenal, which, with many other public buildings, and squares, deserve the attention of the traveller. There are likewise several societies for the encouragement of Arts, Sciences, and Literature. Among them, the Academy of Sciences and Belles Lettres, has obtained great reputation by its Memoirs. Berlin has also a well-furnished Observatory, a Military Academy, and some charitable institutions.

The city is encompassed with slight walls and palisades, and entered by fifteen gates, one of which is the celebrated Brandenburg Gate, consisting of an open colonade of six elegant Doric columns, each 44 feet high and five in diameter, leaving five intervening and spacious apertures. This gives access from one of the most magnificent streets in Europe to a handsome park, formerly enclosed for the chase, but now dedicated to the health and amusement of the citizens. Berlin contains a population of about 180,000 individuals, besides the military, who are seldom less than 50,000. In 1817, the number of inhabitants was 178,811, of whom 86,099 were males, and 92,712 females. Nearly one-fourth of the people are employed in various manufactures, the principal of which are silk, porcelain, linen, cotton, laces, jewellery, and several metallic articles.

At the distance of a few miles from Berlin is PERSDAM, containing a great



Berlin

number of handsome buildings and about 30,000 inhabitants. This place, however, is most noted for the palace of *Sans-Souci*, situated in its vicinity, and which is much admired for its combination of elegance and beauty with grandeur and magnificence.

KONIGSBERG, the capital of Prussia Proper, is situated on the river Pregel, and contains a population of about 55,000 persons. Part of the city is seated on an island formed by the river, and is connected with the other part by bridges. Including the suburbs, Konigsberg is about seven miles in circumference, and contains many large and elegant houses, with some stately and magnificent public buildings. Most of the inhabitants are Lutherans, and several of the churches are handsome structures. The university is in high repute, and has been long supplied with able professors. This city, which was the ancient capital, and dates its origin in the 13th century, is well fortified, and is the most commercial place in the Prussian dominions. But, as the river only admits small vessels to ascend to Konigsberg, the merchants have found it expedient to make a depot at PILLAU, which is situated on a bay of the Frische Haff, about 30 miles below Konigsberg. Some idea may be formed of the commerce of this place from the circumstance that, in 1817, the number of vessels that entered the harbour, amounted to 1098; many of which belonged to British, Prussian, and Belgic merchants.

MEMEL is likewise a town of extensive trade, situated at the north-eastern extremity of the Prussian monarchy. Many of the houses are large and commodious, and some of them handsome buildings. The harbour is the best on the shores of the Baltic, and the trade, particularly in timber, which is floated down the river Memel in large rafts, is extensive. ELBING, situated at the southern extremity of Frische-Haff, in western Prussia, is also a place of great trade, which has much increased within a few years, under the encouragement of British merchants, and English capital. The present population amounts to about 18,000 individuals.

MARIENWERDER, the seat of government for western Prussia, is a large town situated on the Vistula. Besides its public offices, and other handsome buildings, it is noted for the largest cathedral in the kingdom. There is, likewise, a spacious Gothic palace, but the town is not distinguished, either for extensive trade or manufactures. The population is about 5100.

BRESLAU, the capital of Silesia, is situated on the Oder, at the confluence of the Ohlau, and is generally considered the third city in the Prussian territory. It is large, well built, strongly fortified, and famed for its large gates, besides smaller places of admission. The number of its inhabitants is nearly 70,000; about one-third of whom are catholics. Breslau is the See of a Catholic bishop, whose jurisdiction extends over the whole of Silesia; but his power and influence have been much reduced by his present Majesty, who has suppressed many of the monastic institutions. Breslau is likewise the seat of a University, which was founded in 1702, by the Emperor Leopold, and generally contains 400 or 500 students. Here are also a number of charitable institutions, many of which are liberally supported. The situation of the city is favourable for trade, and internal commerce is carried on to a great amount. The staple article is linen, for the manufacture of which the Silesians have long been celebrated. Much of the business is transacted at large annual fairs, two of which are exclusively appropriated to the trade in wool. Breslau was taken by the king of Prussia in 1741; and re-taken by the Austrians in 1757; but the Prussians recovered it the same year, and kept possession of it till they were obliged to relinquish it to the French in January, 1807. It has since been restored to Prussia.

Silesia contains many other cities and towns; but few of them are important, whether as regards their magnitude, their commercial transactions, or the extent

and superiority of their manufactures. **BRIEG** and **SCHWEIDNITZ** are both handsome well-built towns, containing about 7 or 8000 inhabitants each; but the population of the others seldom exceeds 5000. **TILSIT** is situated near the eastern extremity of Prussia, and has been rendered memorable, by the treaty of peace concluded there by Prussia and France, in July 1807.

Among the most considerable towns in the eastern part of the Prussian dominions, both in population and commercial concerns, is **DANTZIC**, situated on the west bank of the Vistula, about five miles from a bay of the same name, on the southern shore of the Baltic, and possessing a good harbour, with an extensive inland communication by the Vistula. It is an ancient place; of great commercial renown, and was at the head of the celebrated Hanseatic league; but though much declined in wealth and population, since the early part of the last century, it still possesses about 45,000 inhabitants. The value of its exports amounts to about £1,500,000 annually. The houses are high, generally containing five or six stories. The streets are crooked, and often narrow and badly paved; and some of them have rows of chesnut-trees on each side. Dantzic is strongly fortified; and its extent within the fortification is about four miles. The principal public buildings are the cathedral, the town-hall, the arsenal, and the edifice which formerly belonged to the Jesuits, together with the court-house of the nobles and the church of St. Catharine. The number of churches exceeds 20; and there are some Catholic institutions, with an academy, several schools, and other public establishments. The chief trade of Dantzic is in the export of grain from Poland and eastern Prussia, which is brought down the Vistula. In addition to this, it exports hemp, flax, linen, timber, potash, &c. Amber is found in the vicinity of Dantzic, and is likewise one of its exports. Its imports embrace a variety of merchandize from almost all parts of Europe, as well as colonial produce. Among these articles may be enumerated wine, oil, groceries, silk, woollen, iron, copper, lead, skins, and furs, with several others. Much of its commercial business is transacted at its great annual fair, in July and August, which lasts for six weeks, and is frequented by merchants from all parts of Europe. The quantity of grain, exported in 1817, was 41,000 lasts.

POSEN is situated on the left bank of the Warta, the central branch of the Oder. It is the capital of the Duchy of the same name, and the chief town in the eastern part of the kingdom. The river is here only navigable for flat open boats. The houses are regularly built, and many of them stuccoed, but most of the streets exhibit a ruinous appearance. The churches are numerous and elegant; and the road from Warsaw passes through the cathedral, and the bishop's palace. Posen is one of the most ancient sees in Poland, though it has for some time been attached to the Prussian monarchy. It has a university, a public library, and a theatre. The streets and houses being close, and compactly built, the town does not occupy a large space, though its population is estimated at 15,000. The suburbs are neatly laid out in rows of poplars, interspersed with scattered cottages. The university is at a short distance from the town, and though it has much declined from its former importance, it still maintains twelve Professors.

On approaching the western regions of the Prussian monarchy, several cities and towns of importance deserve a brief notice.

MAGDEBURG is a large, ancient, and handsome city, situated upon the left bank of the river Elbe. It was formerly an imperial city, and one of the Hanseatic towns. It has a noble palace, a good arsenal, and a magnificent cathedral, which contains the tomb of Otho the Great. This is a Gothic structure that has been much celebrated on the Continent, but is inferior to several edifices of the same kind, in Britain; particularly those of York and Westminster. Magdeburg

has manufactures of cotton, linen, stockings, gloves, and tobacco; but those of woollen and silk are the principal. From its easy communication with Hamburgh, by the Elbe, and its being in the great road between Upper and Lower Germany, Magdeburg is well situated for trade. It is one of the strongest places belonging to Prussia, and where some of their most valuable magazines and foundries were established. This city was taken by storm in 1631, by the imperial general Tilly, who burnt the town and massacred the inhabitants, when only about 800 escaped out of nearly 40,000. On that occasion a number of young women threw themselves into the Elbe, to avoid being violated by the conquerors. Magdeburg surrendered to the French in November 1806, with a garrison of 16,000 men. This was also the place where the celebrated Baron Trenck was confined by Frederick II. Its population is about 30,500.

STETTIN, in Pomerania, is a place of great commercial importance, and contains a population of more than 20,000 inhabitants. Being favourably situated near the estuary of the Oder, it supplies Brandenburg and the adjoining provinces with various articles of foreign merchandize, as well as with its own manufactures, which are considerable. Catharine II. of Russia, was born here in 1729.

FRANKFORT ON THE ODER, is a rich and handsome town, with a good commerce, several manufactures, and a population of nearly 12,000 individuals. It is distinguished for its university and three great annual fairs, at which much business is transacted. The town is well built, has a communication with the North Sea, by means of the Muhltrose Canal, on which and the Oder, about 2000 small vessels are constantly employed. There are also several manufactures; among which are woollen, silk, leather, and earthen-ware. The town is not fortified, but is defended by a fort on the opposite side of the river. A dreadful engagement took place near Frankfort, between the Russians and the Prussians, when Frederick II. left 20,000 men on the field of battle; nor did he quit it till nearly an equal slaughter had taken place among the Russian infantry.

COLOGNE is a large city in reference to the space it covers, the circuit of its walls being nearly seven English miles. It is situated on the left bank of the Rhine, and is built in the form of a crescent, but many spaces are included within the walls, besides those that are occupied by houses. Cologne ranks among the oldest cities in Europe, but it now bears lamentable marks of decay. The public edifices that arrest the traveller's attention, are the churches. The cathedral is a vast unfinished pile of Gothic architecture, dating its foundation from the 13th century. The church of St. Mary is remarkable for its antiquity; and that of St. Gestian, for a subterranean church beneath its choir. The number of places dedicated to public worship, amount to about a hundred. The town-house is a handsome building. Cologne has long held a conspicuous rank among the catholic cities of Germany, and contains numerous monasteries and nunneries, most of which are well stored with *relics*. This city was noted for its university, and the zeal of its clergy. Prior to the occupation of Cologne by the French in 1794, the ecclesiastics of all ranks amounted to about 2000. The population, in 1802, was nearly 39,000; and this included a greater number of mendicants than any other German town of the same number of inhabitants. But since that period its population has diminished. From its favourable situation on the Rhine, Cologne has been noted for its commerce. It was early comprised in the Hanseatic league, and was considered as one of the four principal Hanse-towns. The chief exports are wine, timber, earthenware, slates, hardware, and fire-arms. The manufactures are silk, linen, woollens, lace, and thread, with the celebrated *eau-de-Cologne*. After having been about 20 years annexed to France, Cologne was assigned to Prussia in 1814.

AIX-LA-CHAPELLE, situated about 30 miles west of Cologne, and just within

the western borders of the Prussian dominions, derived its name from its warm baths, and a chapel built by Charlemagne. It is one of the most fashionable resorts in that kingdom. Aix-la-Chapelle was once considered as the capital of the German Empire, and was the place where the imperial crown and dignity were conferred. The houses in many parts of the city are well built, and several of the streets exhibit great elegance. Many of its ancient monasteries and convents have been suppressed. The town-hall, and the masquerade-room, are the most noted of its other public buildings. The population amounts to about 27,000 individuals, many of whom are engaged in manufactures and commerce. The chief articles made at this place are woollen cloth and needles, with others in copper and brass. In these, several thousand individuals are employed. Aix-la-Chapelle derives its chief importance from the celebrated baths, which are much frequented. These baths are supplied by three distinct springs, some of which are covered with fine flakes of virgin sulphur; and are used for external ablutions as well as internal medicine. Two celebrated treaties of peace were concluded at Aix-la-Chapelle; the former between France and Spain, in 1668, and the latter between the different powers engaged in the war of the Austrian succession in 1748. A congress was also held here by the principal sovereigns of Europe, with the confidential ministers and plenipotentiaries of other states in 1818, at which various measures relative to the general interests of Europe were discussed and adopted.

COBLENTZ is now the capital of the Grand Duchy of the Lower Rhine, and had formerly the same relation to the electorates of Treves. It stands in a beautiful and fertile country, at the junction of the Rhine and the Moselle. Over the former river, there is a bridge of boats, but over the latter, one of stone. The town is well built; the streets are wide; most of the houses are constructed of stone; and the public buildings are handsome. One of the most conspicuous of these buildings is a magnificent palace, erected for the elector of Treves, in 1779. It stands on the bank of the Rhine, near an eminence crowned with the remains of a venerable castle. The Jesuits' college, and most of the nunneries, were suppressed by the French; and the two handsome quays, the one along the Rhine, and the other on the bank of the Moselle, are used as promenades, as well as for commercial purposes. The population is now about 10,500. Coblenz is well situated for trade, as it is connected with France, by the Moselle, and with Germany and Switzerland, by the Rhine. It is also through the medium of this town, that the Dutch receive a great part of their timber and iron. The manufactures of Coblenz are on a small scale, and are chiefly confined to those of woollen, linen, and leather. Two annual fairs are held, each of which lasts for a fortnight. This ancient town was the seat of a great church council in 860, and it has, at various times, felt the severe effects of war. In the 30 years' war of Germany, it passed successively into the hands of the Swedes, the Imperialists, the French, and the German Protestants. In 1668 it was almost reduced to ashes by the French. It became the head-quarters of the Prussians, when they invaded France in 1792; it was taken by the troops of the French Republic, two years afterwards, and remained annexed to France till 1814, when it was restored to Prussia.

MUNSTER is the capital of the Prussian province of Westphalia. It stands on a small river, on a pleasant and fertile plain in the north-west part of the circle of Westphalia. It is an irregular town, containing some good houses, but few public buildings that deserve notice. Among these are the cathedral and the church of St. Lambert. The first contains a remarkable chapel, and several singular monuments of antiquity; the tower of the latter was the place where the remains of John of Leyden and his two principal associates were suspended in iron cages. The manufactures of Munster have been principally coarse

linen, woollen, wine, &c. but they have always been confined by the thinly-peopled country in which the city is situated. Like many of the other German towns, it has suffered from the calamities of war. The treaty which terminated the 30 years' war was concluded there, in 1648. Though Munster is considered less populous than before it was occupied by the French, in 1806, yet the number of its inhabitants is about 13,000.

HALLE is a large flourishing town in the Duchy of Saxony, now belonging to the Prussian states. It is situated on the Saale, over which it has five bridges. Halle owes much of its celebrity to its university and literary institutions. It is built in the form of a square, and has several distinct suburbs attached to it, which raise its population to about 25,000 individuals. The Lutherans have seven churches here, and the Jews a synagogue. There are several other remarkable buildings, among which are a red tower that rises to the height of 260 feet; part of the venerable castle of Moritzburg, and the ancient residence of the Governor. In 1699 a military academy was converted into a university, which has since maintained a very high reputation. Several scientific Institutions are also established at Halle. In one of the suburbs is the celebrated *Canstein* establishment for printing the Scriptures, at which nearly three millions of bibles and testaments have been printed, since its first formation. Various distinguished periodical journals are also published at Halle. It possesses manufactures of woollens, stockings, silk, leather, hardware, and starch. Great quantities of coals and salt are found in the neighbourhood. Halle was the scene of an obstinate engagement between the French and Prussians, on the 17th of October, 1806 which proved disastrous to the latter. It has also given birth to several eminent men, among which are Hoffmann, Michaelis, and Handel.

TREVES is a large city, situated on the Moselle, and one of the most ancient in Germany. It was a celebrated place in the time of the Romans, by whom it was considered as the capital of Belgic Gaul. Some of the Emperors made it their residence, and it was the see of an archbishop, who was also one of the electors of Germany, till the electorate was lately suppressed. It bears evident marks of its ancient magnificence and present decay; but still contains several churches and other buildings, with a population of about 13,500 inhabitants.

CLEVES is the capital of the Grand Duchy of that name, and one of the neatest towns in that part of the continent. It is built on the declivity of a hill, and extends into the vale about two miles from the right bank of the Rhine. It resembles a Dutch town, and is surrounded with walls, but not strongly fortified. On the top of the hill stands the ancient castle of Schwanenburg, which overlooks the town, and from the tower of which there is a most extensive and delightful prospect, including a view of the Rhine and twenty-four towns. Cleves was a town of considerable importance in the time of the Romans, and now contains a population of about 5000 people.

DUSSELDORF is a handsome modern town, situated on the right bank of the Rhine, where it is joined by the Dussel. The elector Palatine having, in the early part of the 18th century, exempted any person who should build a house in Dusseldorf from taxes for thirty years, the town, in consequence, became both enlarged and beautified. The streets are regular, and the squares handsome. The population of Dusseldorf is about 19,000: and it not only participates in the manufactures and commerce of the adjacent country, but possesses an Academy for the instruction of youth in the liberal arts, and another for painting, with a collection of casts, a physical cabinet, and a celebrated gallery of paintings, which contains many of the *chef d'œuvres* of the Flemish school. There are several handsome churches and pleasant public walks. In 1806 it became the residence of the grand Duke of Berg,

and was the seat of government and the centre of the public offices ; but the town, with the state to which it belongs, was assigned by the Congress to Prussia, in 1815.

ERFURTH is a large town in the Saxon part of the Prussian dominions, and has been the scene of some memorable conflicts, since the commencement of the present century. It has a noted citadel, built on an eminence called Petersburg, and a population of about 18,000 inhabitants, composed both of Catholics and Protestants ; some of whom are employed in the manufacture of woollens and silk. The town is not well built, but contains several good edifices, with a great number of gardens. A university, which was founded at Erfurth in 1392, was suppressed in 1816 for want of funds. To Erfurth the Prussians retreated after the battle of Jena, where the Emperor of Russia and Buonaparte had an interview in 1808 ; and the possession of this place was a great means of preserving the French army from destruction, during its retreat after the battle of Leipsic, in 1813.

BRANDENBURG is situated on the river Havel, a few miles west of Berlin. It is the oldest city in this part of the kingdom, and gives name to the district. Brandenburg is divided into the old and new town, and is a well-built place, containing one broad and handsome street, with several smaller ones, and a population of 12 or 13,000 people. There are seven churches besides the cathedral. It also contains a number of endowed schools, with manufactures of linen and woollen cloths, which together employ about 500 looms. There are likewise tanneries, breweries, and distilleries.

MINDEN is pleasantly seated on the Wesier, and is the chief town in the government of the same name. It is one of the oldest towns in Germany, and is a place of considerable traffic. There is a bridge over the river, 600 feet long, the arches of which are extremely curious, for the time at which they were constructed. Minden contains six churches belonging to different sects. With a gymnasium, four hospitals, and an orphan-house. It has various manufactures of woollen, linen, leather, &c. and exports corn and timber. It was taken by the French in 1806, and restored to Prussia in 1814. The number of its inhabitants is about 7000.

CHAPTER IV.

Manufactures, Fisheries, Commerce, and Shipping.

THE provinces now subject to Prussia, are so various in the nature and fertility of their soil and productions, as not only, in a great measure, to supply all the wants of the population, but to furnish the materials for exercising the skill and industry of its inhabitants, in the prosecution of numerous and extensive manufactures. The late disastrous war had caused these to decline, but the return of peace has already had a beneficial effect in reviving them. They consist principally of hardware, paper, glass, porcelain, cotton, silk, woollen goods, and leather. In reference to the manufactures of Berlin, Mr. James observes, "Their porcelain is infinitely superior in beauty to any which I have seen. The colours are dark and harmonious, the forms elegant and classical. In other branches their articles of bronze, their carpets, their iron ware, are equally excellent." The Prussians have acquired the art of casting small articles of iron, with a perfection peculiar to themselves. Even medallions of this kind are cast with a sharpness and precision which equal those of the most ductile metals: these, when finished, are rubbed over with burnt porcelain earth, and a rich hue is thus imparted to them, that renders their appearance particularly striking. The broad cloth manufactories are supplied with wool of the finest quality from the improved sheep of Silesia. In that province the woollen manufacture employs about 15,000 persons. But the finest broad cloths in the kingdom are made in the provinces on the left bank of the Rhine, and near the boundary line which separates its territories from those of France. The towns of Eupen, Aachen, Stalberg, and some other adjacent places, give employment to about 50,000 persons in making the finest cloths that are manufactured on the continent, and the value of which is about £1,250,000 annually.

Their linens resemble those of Ireland, but are inferior both in colour and durability. Linen is not only made in Silesia in quantities sufficient for home consumption, but for exportation; and much is sent into Holland, and thence exported as the manufacture of that country. The number of Silesians supposed to be engaged in the manufacture of this article is about 56,000. Such, indeed, is the attention paid to this branch of industry in some parts, that whole villages and country towns are entirely inhabited by weavers. Few of the other manufactures are more than sufficient for the supply of their domestic wants. The various articles which are made of silk, or of silk and cotton mixed, occupy about 20,000 looms. Many fine metallic articles are made with a degree of skill and ingenuity which are rarely equalled by any of the other continental nations. Iron, copper, and brass articles, adequate to the demands of domestic consumption, are made partly from native materials, and partly from copper imported from other countries. The whole amount of these has lately been stated at £200,000. The total number of persons employed in the Prussian manufactures is about 350,000; and the value of the articles they produce about £7,500,000, exclusively of the raw materials. Prussia has paid little attention to the *Fisheries*. Some of the large rivers afford supplies for their immediate neighbourhoods; but the fish of the Baltic are less numerous than those of the ocean. Fishing in this sea, therefore, affords a less profitable employment than in most other parts of northern Europe. Besides the fish that are

caught immediately off the coast, a few vessels are engaged both in the herring fishery of the German ocean, and the whale fishery of the Greenland seas.

The loss which Prussia sustained in the eastern part of her territory has contracted her COMMERCE in that quarter ; but this has been more than counterbalanced by her acquisitions in the south-west of Germany, and by the fertile provinces on the banks of the Rhine. These give her immediate access to the more southern regions of Germany, Switzerland, Holland, and part of France. The principal of the Prussian EXPORTS are, wheat, rye, barley, and peas, with timber, staves, ashes, flax, hemp, linen, amber, and salt. Much of the wheat was exported from the Polish provinces, and this, as well as other kinds of grain, is therefore greatly diminished by the loss of those provinces. Nearly all the ports of the Baltic, however, continue to ship grain in certain quantities, notwithstanding the produce of the country is comparatively small ; for the peasants consume scarcely any thing but potatoes and buck-wheat, with a little rye. The numerous rivers and lakes facilitate the export of timber, which is cut in the forests on their banks, and floated down in rafts to the coast. Thousands of tons annually descend the Elbe, and are disposed of at Hamburg ; but both the timber and staves from Dantzic are preferred. As amber is found only on the Prussian shores, it is a valuable article of export, and is transported to various parts of the globe. So abundant is this singular substance, that nearly 200 tons have been exported in one year. But the trade with the European states has lately decreased, from the diminished use of amber in most of them. The larger portion of it is now sent to Turkey and the east. Great numbers of horses are bred in the eastern provinces of Prussia, and many are exported. The best hemp, flax, and linseed, are obtained from the eastern ports of the Baltic. Linen is chiefly exported from Stettin, to which it is conveyed by the Oder from Breslau. The total amount of the Prussian exports is about £4,500,000.

The principal IMPORTS consist of wine and fruits from the more southern countries of Europe, colonial produce, and various manufactured articles. Among these are printed cottons and hardware, with several other things from England. The yearly value of the Imports, on an average, is stated at £3,700,000. An increase has lately taken place in the number of Prussian vessels, but much of the Baltic trade is still carried on in those of other nations, which visit its ports for the sake of the commodities they supply.

Of the 1096 vessels that entered the Port of Pillau in 1817, there were only 309 which belonged to Prussia. This shows that the number of Prussian ships is less than either the extent of her dominions and commerce, or the facilities she possesses for building them, might lead us to expect.

CHAPTER V.

Government and Constitution—Laws and Jurisprudence—Army—Navy—Revenue—Political Importance and Relations.

THE GOVERNMENT of Prussia is now more absolute and military than any other in Germany; as it is without a vestige of a senate or of delegates from the people to act as a counterpoise to the will of the sovereign. Though there are something like states in Eastern Prussia, they possess no other power than that of humbly laying their wishes at the foot of the throne. They have no voice either in levying taxes or in making laws. In 1808, the king of Prussia destroyed all the ancient forms of Government, in the different cities within his dominions, and thus annihilated the privileges of the various classes of their citizens. In the following year, he gave a new form to the ancient states of Eastern Prussia; and reduced them all to a dependance upon his own will. The circumstances in which Prussia has long been placed with respect to the great powers of Russia and Austria, have contributed to stamp that military character on the government, which it has long maintained. The legislative part of the constitution is therefore exercised by the king, and counsellors of his own choosing. A more liberal system has been anticipated, and a representative constitution promised, by his present Majesty, which we hope will correspond with his liberal views, the general diffusion of knowledge, and the enlightened policy of the times. The executive part of the constitution is conducted by a regency of four great Officers of State. These are the great Master, the great Burgrave, the great Chancellor, and the great Marshal. The King is assisted by the Council of State, which is composed of the great officers of the Crown, and such others as he may appoint, with a certain number of deputies from the nobility, who are formed into a board for regulating navigation and commerce.

As the Prussian Constitution was arranged at a later period than those of many other European States, it is less encumbered with those ancient establishments, which a change in times and circumstances frequently converts into impediments to national welfare. The nature of this constitution, however, is completely military, and the system of government most extensive. Each of the provinces into which the Prussian monarchy is divided, is under the superintendence of an upper president, who is a kind of viceroy, or King's lieutenant of the division.

The provinces are subdivided into smaller circles of government, (generally three) over which a president and two boards or committees preside. Their business is to regulate the most trifling concerns, with the making of roads and the superintending of the press. These circles are again divided into districts, and each district is under the care of a director of police. This minute and military form of government has been established in all the newly-acquired provinces.

The LAWS of Prussia in general partake of the character of the recent period at which they were enacted, and of the military nature of the government under which they were established. Frederick the Great availed himself of the knowledge and philosophy of his age, to correct the abuses to which they were then subject. He introduced several salutary regulations into the civil polity. Among other improvements, he established religious toleration; facilitated the administration of justice; curtailed the oppressive privileges of the nobles; and introduced economy

into all the departments of government. For the administration of justice, a superior court is instituted in each of the Prussian provinces. These receive appeals from the inferior courts, allow causes to be removed from one province to another, and finally to the chief court at Berlin, which is called the Upper Secret Tribunal, from which there is no appeal. The courts for the mines and salt-works are distinct from the others.

The relative position of the Prussian dominions, in connexion with the military nature of the government, caused great attention to be paid to the number and discipline of the ARMY. At the commencement of the campaign in 1805, the troops amounted to about 250,000 men. During the subsequent eclipse of that monarchy, they did not consist of more than 150,000. These were afterwards much increased; but the general return of peace to Europe, renders it unnecessary for the king of Prussia to continue his military establishments on so large a scale. The number of troops which Prussia contributes to the Germanic confederacy is nearly 80,000. As, however, part of its possessions are not within the limits of the confederacy, and its frontiers are so extensive, Prussia still requires a large and efficient army, the present amount of which is about 165,000 men. Prussia has long ranked high among the first states of Europe, both on account of her military tactics and the bravery of her troops. Both these had, by the operation of local circumstances, been in a great measure lost at the beginning of the present century. It has been observed in reference to the Prussian troops, "when the tide of battle poured upon their country, they were found much too effeminate to withstand the fatal energy of that soldiery which had grown grey in camps, and braved in succession the snows of mount St. Gothard and the sandy deserts of Egypt. The loss of a single battle, therefore, within their own territories, proved as disastrous to Prussia as it had been to Carthage, and ere the vultures had been sated on the bloody field of Eylau, the Gauls were already in the capital." Yet, though the Prussian army suffered a temporary humiliation from 1805 to 1813, the part she took in repressing the final projects of their oppressor, has retrieved their former fame; and "the laurels they gathered on the plains of *Quatre Bras* and the field of *Waterloo* have encircled the cypress overhanging the tombs of their gallant Prince and beauteous Queen."

The military of Prussia includes three distinct classes of troops. These are 1st. The Regulars, who are raised by conscription, from the young men who are between twenty and twenty-five years of age, who are all compelled to serve when called upon. 2nd. The *Landwehr*, who are between twenty-five and forty years old. Such of the regulars also as purchase their own arms and accoutrements, and pay a certain sum to government, are allowed to join the *Landwehr*, after having learned their exercise. During peace the *Landwehr* only meet for exercise once a year, but in time of war they become a disposable force. 3rd. The *Landsturm*, which is composed of such men as are above forty years of age. These are only embodied during war, when they are required to maintain the internal tranquillity, and to guard prisoners.—The Prussian army is composed of the following troops: viz.

Guards	18,220 men.
Infantry of the Line	112,140
Cavalry.....	19,232
Artillery and Engineers	15,408
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Regular Troops	165,000
Landwehr	160,000
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Total disposable force in time of war	325,000
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Prussia cannot be classed among the maritime powers of Europe. Her atten-

tion has always been directed towards her army; and though possessing a considerable extent of coast, and materials for the construction of vessels, she is still destitute of a NAVY.

The REVENUE of Prussia has never been great. A few years ago it was computed at £3,880,000 sterling, which the accessions in Poland raised to about £4,500,000. This was subsequently diminished, and in 1807, it was stated at only £2,700,000. In 1817, according to the statement of M. *Demian*, it amounted to 42,000,000 of Dollars, or about £7,000,000. The royal domains yield about one million; the regalia, such as the post, salt, &c. produce about the same sum. Tolls on roads and canals afford nearly another million; and the remainder is raised by taxes. The chief of these are on the land, trade, persons, doors, and windows. There are also stamp and excise duties on many of the common necessities of life. The whole amount of the taxes is about £4,000,000. Mr. *Jacob*, in his "View of Germany," gives the following statement of the Revenue, and the proportions contributed by the different provinces of the monarchy, in 1819, viz.

East Prussia.....	8,100,000
West Prussia	3,750,000
Posen	3,100,000
Brandenburg.....	9,000,000
Pomerania	3,000,000
Silesia	13,500,000
Saxony	10,417,000
Westphalia	8,431,000
Juliers, Cleves, and Berg.....	8,670,000
Lower Rhine	7,000,000
	<hr/>
	74,968,000 Guldens, or
	<hr/>
	£7,528,000 Sterling.

The economy which had been maintained in the various departments of the Prussian government, long precluded the accumulation of a public Debt; but the recent disasters of the country have at length produced this general appendage of an expensive and protracted war. Baron *Bignon* estimated its amount, in 1815, at about forty millions of pounds. The arrears of the old Debt he states at more than four millions; that contracted during the tyranny of the French, exceeded twenty-four millions; and the stores furnished to the French army without an equivalent, was estimated at four millions. Though Prussia was indemnified for this last from the subsidies paid by France, the Debt of her new provinces still raised the sum to nearly £40,000,000. But, since the return of peace, the prudence of the government has put this into a proper train for liquidation, and much of the floating Debt has already been discharged. The whole of the public expenditure has lately been stated as follows.

Establishment of the Royal Household.....	2,250,000
Military Expenditure	37,500,000
Civil Expenditure	7,500,000
Interest of the Public Debt.....	15,000,000
	<hr/>
	62,250,000 Guldens, or
	<hr/>
	£6,510,000

In fully estimating the POLITICAL IMPORTANCE and RELATIONS of Prussia, a variety of circumstances must be taken into the account, their individual and

relative influence investigated, and their effects balanced with a skilful hand. A very brief sketch, however, must here suffice. The great qualities of Frederick H., increased the territorial dominions of Prussia, elevated her military prowess, and placed her in the *first* class of European states. This rank she still retains; but her real place is undoubtedly the last of the *five*, which are, Britain, France, Russia, Austria, and Prussia. Of these continental states, Prussia is not only the smallest, but enjoys the fewest natural advantages. Her dominions are little more than two-thirds of those of Austria. Much, even, of this territory is sandy and sterile; while her mines are neither numerous nor productive, and her resources for extensive and varied manufactures are defective. The very shape and dispersed nature of her dominions, in presenting an extended frontier, without natural barriers or depth of interior, diminish the influence which the same population, character, and resources would exhibit on a more concentrated territory. Under these natural disadvantages, Prussia has evidently maintained her rank, chiefly by her military power and her internal organization. It does not require any prophetic skill to perceive, that as the territories and resources of the other great states of this class improve, the influence of Prussia must decline. Superior to her in soil and climate, in vegetable and mineral treasures, and in all the means of productive industry, their importance will be commensurate with the improvement of these resources. The time too seems to be past when the good order of her finances, and the discipline of her armies could raise her to an equality with Austria, France, or Russia. But Prussia still possesses more intelligence and intellectual culture, than either Austria or Russia; and by a further cultivation of her moral advantages, she may still hold her ground. Political and religious freedom may even yet raise her in the scale. With a population at least equal to that of England, more than two-thirds of whom are Protestants, Prussia free and enlightened, may become, if *virtuous*, not the dread of adjacent states, but the seat of honourable patriotism, and the rallying point of the Protestant interest in Germany; particularly as the king is joint protector of that Confederacy with the Emperor of Austria.

When Prussia is considered in her POLITICAL RELATIONS, with her contiguous and rival powers, her situation and circumstances can scarcely fail to excite apprehensions as to the future. Russia, with its giant form, and grasping disposition, hovers over her left wing; while Austria, with a vast concentrated territory, and nearly three times the population, stretches along her front, and cuts off her hopes of accessions in that quarter. An alliance with Sweden and Denmark would evidently be advantageous as a mutual defence against the former of these powers, and with France as a check to the latter. From England she has less to fear, but not less to hope. Though more remote in situation, Great Britain is not so opposed in interests, as most other nations; but it is equally influential in the cabinet, equally commanding in the field, and equally authoritative on the ocean. Hence, though an alliance with France, as a protection against the superior power of Austria, seems to be the most natural, that power cannot easily forget that a part of the present territories of Prussia was lately united to her own empire. Consequently, an apprehension of the preponderance of Austria, must be the sole cementing cause of a continued alliance between France and Prussia; while between England and that power, no rankling animosities exist, no opposing interests seem to clash.

CHAPTER VI.

Religion and Ecclesiastical Geography—Education—Language and Literature—Arts and Sciences—Manners and Customs—Antiquities and Curiosities—Islands.

THE established RELIGION of the Prussian States is the Protestant, according to the two principal divisions of its Doctrine, as instituted by Luther and Calvin ; but free toleration is allowed to all other persuasions. In the Duchy of Posen, and in Silesia, about half the people are catholics. In some of the provinces on the Rhine, also, they predominate. The whole number in the Prussian dominions is nearly 4,000,000. The protestants are the most numerous in all the other provinces.

The tolerant spirit of the Prussian religion has lately been manifested in an eminent degree both by the sovereign and his people. In the one, by his joining the holy alliance established by some of the European potentates ; and by the other, in their relinquishing their distinguishing appellations of Lutherans and Calvinists, and agreeing to unite in one body simply as the professors of the *Evangelical Faith*. The affairs of the Prussian church, and the establishments of education, in each province, are managed by a *Consistorium*. This is composed of both clerical and lay members, who are appointed by government. In the catholic provinces of the monarchy, the affairs of the church are under the superintendence of the upper President, assisted by the counsels of the bishops.

The numbers of individuals in each of the religious denominations in Prussia, in 1817, was,

Lutherans.....	6,064,379
Catholics	4,023,513
Reformed	300,100
Jews.....	127,345
Mennonites	15,333
Moravians, Hussites, Socinians, and other small sects.....	6,000
Total.....	10,536,670

In point of EDUCATION Prussia resembles the other parts of northern Germany ; except that the nature of its constitution has, perhaps, given it more of a military cast. The restoration of peace, and the wisdom of the monarch, are circumstances favourable to its improvement ; and efforts are making for that purpose. A number of Universities, Academies, and other Institutions, have for many years been established in the various cities and larger towns ; but these were either principally devoted to military purposes, or chiefly confined to the superior class of the people. The peasants, who are thinly spread over the sandy regions of the country, have consequently been neglected, and there are few parts of northern Germany, where they are more ignorant.

The general LANGUAGE of Prussia is the German, which is common to all the northern parts of these wide dominions. The Polish is mingled with it on the east, and French is generally spoken in some of the provinces on the south-west, particularly on the left bank of the Rhine. On examining the past and present state of Prussian LITERATURE, it will readily be perceived that it has no legitimate claim.

either to ancient fame or modern perfection ; but Prussia is not destitute of authors of eminence, and several distinguished names grace its literary annals. Frederick the Great was celebrated for his attainments ; Count Hertberg is known as a writer of great reputation ; Cluverius and Busching as eminent Geographers ; Ramler as a poet ; Kant as a moral Philosopher ; and Nicolai as a writer of original romances.

Though Science is not generally diffused over the Prussian monarchy, it has seldom been without men who have attained eminence in these abstruse researches. Copernicus the celebrated astronomer, whose name is now identified with the solar system, was a native of Thorn ; and Regiomontanus, one of the most noted mathematicians of his time, was born at Dantzic. The present Academy of Sciences at Berlin also includes several distinguished men in the list of its members. Its Memoirs have long secured it a high rank among similar institutions in the northern nations of Europe. Natural History, Chemistry, and Mineralogy, are studied in Prussia, especially at Berlin, with the greatest ardour and success. A society has been formed for the prosecution of these objects ; and in its list of members are enrolled the well-known names of Humboldt, Bode, Klaproth, Willdenow, Karstein, De Hermstadt, De Flewrke, De Laspeyres, De Klng, De Gronau, De Reiche, and several others. Yet Prussia is deficient in distinguished artists, painters, sculptors, or even architects ; so true is it, that nations may advance far in the paths of useful knowledge before the FINE ARTS can find a congenial soil, and flourish with any degree of vigour.

The UNIVERSITIES within the Prussian states at present are those of Berlin, Königsberg, Frankfort on the Oder, Posen, with that of Greifswalde, in Pomerania, Paderborn, in Prussian Westphalia, and Bonn, in the Grand Duchy of the Rhine, which was established in 1818.

The number of distinct states, comprised in the Prussian dominions, and the different origins of their population, necessarily impart variety to the MANNERS, CUSTOMS, and Characters of their inhabitants. The Poles and Silesians of the eastern regions differ essentially from the Germans of the western.

The Prussians are generally allowed to be a brave and industrious people. They have more military parade, more show, and higher pretensions, than any other people of northern Germany. Berlin is considered as the Paris of that part of the continent ; but, in other parts of old Prussia, the people have a tinge of gloom in their character when compared with their more sprightly Saxon neighbours. Some writers have ascribed this feature to the nature of their government, the strict and unceasing vigilance of which, and the constant and uniform obedience of the people, have, doubtless, done much towards superinducing such a disposition in the great body of the inhabitants.

Prussia contains two kinds of nobility—the great and the small. The first of these is again distinguished into two more kinds. The one of these classes is composed of those who were formerly independent princes of the German empire, and are now called *mediatized* nobility. There are eighteen of these within the Prussian territories. They are subject to the superior court of justice established at Berlin alone ; they are free from all military service, and are allowed to keep a guard of honour. The patronage of the churches and schools, and the administration of justice within the limits of their own properties, belong to them. They possess all the domains of their former Sovereignties ; their own property is free from taxation, and the taxes levied on their subjects belong to them. They may also work mines of minerals or salt ; but they must deliver the produce to the Sovereign. The second division of the higher class enjoys many similar privileges, but it is subject to the jurisdiction of the high court of justice in the province where the nobility reside.

The secondary class of nobles have the administration of Justice, with the appointment of Clergymen and Schoolmasters, in their own property. All the nobility have some peculiar privileges. They are subject only to the highest tribunal of the province, pay less land-tax, and have greater claim to offices of honour and profit than the other classes of the people, though their exclusive right to possess noble property, and to be officers in the army, has been abolished. The clergy are likewise free from taxation. Many of the ancient privileges of the cities and towns were great restrictions on trade; but these were all abolished soon after the peace of Tilsit, and the sovereign assumed the rights himself, which were formerly vested in the officers of corporate towns. Prior to this period, it was necessary to obtain the sanction of the town before any person could exercise a trade or profession in it; now this privilege must be purchased of government. This has greatly increased both the power and revenue of the crown.

Many parts of ancient Prussia are still subject to the old feudal laws, as they relate to the proprietors and cultivators of the soil. The condition of the peasants is different in different provinces. In some the ancient mode of services still remains without any material modifications; in others, this service is meliorated by various customs and laws, which more fully protect the property of the peasant. In many of those on the banks of the Rhine, the feudal laws have been abolished altogether. The Bauers or Peasants of Prussia, and many other parts of Germany, are a degraded set of men, who are too often despised by the other branches of society; and under such a government as that of Prussia, it is more honourable to be a mercenary soldier, than an industrious man. There the soldier is a knight, but the bauer is a *knecht*, or slave. The wives and daughters of the bauers assist them in performing all the labours of the field. They help to till the small farm, attend to the duties of the house, and make most of the clothing worn by themselves and their families. In general they are clothed in rags and dirt; their whole appearance is neglected and forbidding; but on holydays and days of ceremony they are fond of ornaments and dress, when attire of the most glaring colours is usually preferred. The following is the dress of the peasant girls, as exhibited at a wedding, and must, therefore, be considered as the court attire of these rustic nymphs. Each wore on her head a green silk cap, from which streamed a variety of gay coloured ribbands, and under which her hair was closely tucked up. Her long stays were laced tight at the bottom, from which her loose petticoats hung. They were all made of blue, red, and white striped woollen, and reached only to the middle of the leg. A short linen jacket fitted tight to the stays. This, with white worsted stockings with red clocks, and high-heeled shoes, completed the dress. The young men were habited in a costume resembling the undress of the military; and the old men in loose blue coats, made of home-spun cloth, lined or faced with red, and cocked hats.

Few European kingdoms, of equal extent, are more deficient in MONUMENTS of ANTIQUITY than Prussia. Throughout the whole of Germany, indeed, there are not many to be found. Those of Pagan times, were constructed of materials too perishable to withstand the ceaseless action of time; while the remains of antiquity, which belong to a later period, are chiefly castles, resembling those of other countries, erected during the feudal periods of their history. A multiplicity of churches and cathedrals followed the introduction of Christianity; but few of them contain any thing remarkable.

The level nature of the Prussian dominions, precludes most of the NATURAL CURIOSITIES exhibited by mountainous countries. The chain which separates Prussia from Bohemia and Moravia, has been little explored. Besides which, the most rugged and precipitous escarpments are on the southern side of the range;

and it is consequently in that part the principal Natural Curiosities are to be found. Under this head, the amber mines of Prussia ought certainly to be classed, as that substance is almost exclusively confined to the shores of the Baltic. These, however, have already been described in the account of the fossil products of the kingdom.

Prussia now stretcheth eight or nine degrees along the southern shores of the Baltic; yet the only group of ISLANDS that occurs in the whole of this extensive range, is towards the western extremity. RUGEN is the chief of these islands, situated off the coast of Pomerania, from which it is separated by a channel, little more than a mile in width. It is so much indented by the sea, as to resemble a cluster of peninsulas. This island appears to have been first peopled by the RUGI of Pagan times. It was conquered by Waldimar I. of Denmark, in 1168. From them it passed to Sweden by the peace of Roschild, in 1658. In 1813, it passed again to Denmark with Pomerania, when that country resigned Norway to Sweden; but the following year it was exchanged with Prussia for the Duchy of Lauenburg. The soil of Rugen is fertile, and yields great quantities of all kinds of grain, and numerous cattle, which are annually exported. Wood is scarce, and most of the fuel is brought from Pomerania. The capital of this island is *Bergen*, which is situated on a small lake, or arm of the sea. It is the residence of the governor, and the seat of the provincial government. There is a castle and a convent for the daughters of the nobility, with a population of about 1600 inhabitants.

The other islands belonging to Prussia are too small to be described. Of COLONIES it is entirely destitute.

CHAPTER VII.

Statistical and Synoptical Tables.

TABLE I.

Principal Exports from Königsberg, in 1817, according to the Custom House Accounts.

Wheat	Stones	5,777½	Flax	Stones	18,034½
Rye		18,449½	Tallow		11,470½
Barley		5,195½	Soap	Lasts	15½
Oats		2,735½	Potashes	Stones	11,552
Pease		2,220½	Weed-ashes		566½
Linseed		1,685	Horse-hair		125½
Rapeseed		706½	Bristles		8,918½
Hempseed		1	Yarns	Shocks	4,632½
Malt		9	Leaf-tobacco	Stones	4,656½
Mats		17,143½	Hemp-oil		186½
Hemp		97,329	Wax		2,566½
Hemp-tow		7217½			

TABLE II.

*Latitudes and Longitudes of the principal places in the Prussian Dominions.*The Latitudes are all *North*, and the Longitudes *East*.

Names of Places.	Latitude.			Longitude.			Names of Places.	Latitude.			Longitude.		
	°	'	"	°	'	"		°	'	"	°	'	"
Aix-la-Chapelle	50	52	0	5	54	0	Junsterberg	54	37	40	21	48	40
Arensberg	51	28	0	8	7	0	Juliers	50	55	0	6	30	0
BERLIN	52	31	45	13	22	0	Königsberg	54	42	12	20	29	15
Bonn	50	40	0	7	6	0	Landsberg	54	14	0	20	30	0
Brandenburg	52	27	0	12	53	15	Magdeburg	52	8	4	11	38	46
Breslau	51	6	0	17	2	18	Marienwerder	53	44	15	18	49	55
Brieg	50	40	0	17	30	0	Memel	55	42	15	21	5	20
Cleves	51	47	40	6	7	6	Merseburg	51	21	35	12	0	5
Coblenz	50	22	0	7	33	0	Minden	52	17	47	8	53	26
Colberg	54	8	0	15	27	0	Münster	51	58	10	7	36	21
Cologne	50	55	21	6	56	15	Nannburg	51	8	55	11	40	0
Custrin	52	30	0	14	48	0	Neisse	50	25	0	17	22	0
Dantzic	54	20	48	18	38	32	Oppeln	50	56	30	17	57	15
Düsseldorf	51	13	42	6	46	25	Paderborn	51	41	0	8	55	0
Elbing	54	7	54	19	21	57	Pillau	54	45	0	20	9	30
Erfurth	50	58	45	11	2	26	Posen	52	24	0	17	0	0
Eylau	54	22	50	20	38	50	Potsdam	52	50	0	13	40	30
Frankfort on the Oder	52	22	8	14	33	15	Prenstow	53	20	0	14	5	0
Friedland	54	26	12	21	1	5	Ratisbon	50	2	0	15	20	0
Glatz	50	16	0	16	26	0	Schweidnitz	50	5	0	16	31	0
Glogau	51	38	0	16	6	45	Stargard	53	16	0	15	18	0
Gnesna	52	26	0	17	42	0	Stendal	52	40	0	12	0	0
Gorlitz	51	9	0	15	31	0	Stettin	53	35	0	14	32	30
Guelders	51	30	42	6	19	9	Stralsund	54	17	0	13	28	0
Gumbinnen	54	31	38	22	35	18	Trèves	49	44	0	7	41	0
Halberstadt	51	53	55	11	8	53							
Halle	51	29	5	11	58	2							
Hamm	51	40	0	7	53	0							

MONIES, WEIGHTS, MEASURES, AND EXCHANGES.

The Monies, Weights, and Measures of the Prussian dominions vary in different Provinces. As a statement for the capital will not therefore answer for the other parts, we shall include a few of the principal commercial towns in the following enumeration.

MONIES.

Monies of Account.

At *Berlin*, and other places in the province of Brandenburg, Accounts are kept in Rixdollars, or Rixthalers, good Groschen, and Pfennings.

	s.	d.
1 Pfennig is equal to	0	0 $\frac{1}{2}$
12 Pfennings are equal to	1	0
8 Good Groschen	1	0
3 Florins	1	0
	1	0

According to the present rate of Exchange, however, the Rixthaler is only equal to 2s. 11 $\frac{1}{2}$ d.

A good Grosche is equal to 3 $\frac{1}{2}$ Groschen.

At *Königsberg*, *Memel*, and *Dantzic*, Accounts are kept in Guilders or Florins, Groschen, and Pfennings.

The present rate of Exchange with this country, gives the values of these as follow, viz.

	s.	d.
1 Pfennig is equal to	0	0 $\frac{1}{2}$
18 Pfennings are equal to	1	0
30 Groschen	1	0
	1	0

Accounts are kept at *Cologne* in Rixdollars, Current and Specie, Albusen, and Hellerns.

	s.	d.
12 Hellerns are equal to	1	0
3 Albusen	1	0
80 Albusen	1	0
	1	0

Accounts are kept at *Stettin* in the same Monies as at Berlin; but the Florin is equal to 16 good Groschen; and, consequently, the Rixdollar is equivalent to 1 $\frac{1}{2}$ Florins.

Coins.

Gold.

The Coins of *Berlin* are the

Intrinsic Value.

Ducat, equal	3 Rixdollars	8 G. Groschen	equal	0	9	3 $\frac{1}{2}$
Dble. Frede.	11 Rixdollars	20 G. Groschen	.....	1	12	2 $\frac{1}{2}$
Single, ditto	5 Rixdollars	22 G. Groschen	.....	0	16	3 $\frac{1}{2}$
Half, ditto	2 Rixdollars	23 G. Groschen	.....	0	8	1 $\frac{1}{2}$

Silver.

Rixdollar, equal to	24 G. Groschen	equal to	0	2	9
Half, ditto	12 G. Groschen	.....	0	1	4 $\frac{1}{2}$
Quarter, ditto	6 G. Groschen	.....	0	0	8 $\frac{1}{2}$
Sixth, ditto	4 G. Groschen	.....	0	0	5 $\frac{1}{2}$

There are, also, smaller pieces of base Silver, equal to 6, 4, and 3 Pfennings; and Copper Pieces of 3 and 1 Pfennig. The largest of these Silver Pieces is equivalent to about $\frac{1}{4}$ the of an English Penny, and the others in proportion.

The Coins peculiar to *Königsberg*, are the

				£.	s.	d.
Timpfen,	equal to	18 Groschen,	equal to	0	0	7½
Sechser	.....	6 Groschen	.....	0	0	2½
Dutgen	.....	3 Groschen	.....	0	0	1½
Piece	.....	1 Groschen	.....	0	0	0½

The *Dantzic* Coins are the following: viz.

			£.	s.	d.
Ducat (Gold)	equal to	12 Florins	equal to	0	9 0
Florin (Silver)	.....	30 Groschen	.....	0	0 9
Timpfen	.....	18 Groschen	.....	0	0 5½
Sechser	.....	6 Groschen	.....	0	0 1½
Dutgen	.....	3 Groschen	.....	0	0 0½
Piece	.....	2 Groschen	.....	0	0 0¼

COMMON WEIGHTS.

Gold and Silver Weight.

Gold and Silver are weighed at *Berlin* by the Mark of 8 Ounces, divided in the following manner, viz.

				Troy Ounces.
20 Grains are	equal to	1 Heller,	equal to	0 0392361
3 Hellerns	.....	1 Dram	.....	0 1177083
4 Drams	.....	1 Loth	.....	0 470833
2 Loths	.....	1 Ounce	.....	0 94166
8 Ounces	.....	1 Mark	.....	7 5333

At *Dantzic* Gold and Silver are also weighed by the Mark of 8 Ounces; but both the subdivision and weight are different from those of the *Berlin* Mark; as

4 Pfennings are equal to	1 Quintlin, equal to	0 095833
24 Quintlins	1 Schott	0 2555
12 Schotts	1 Loth	0 5833
2 Loths	1 Ounce	0 7666
8 Ounces	1 Mark	6 1533

Gold and Silver Weight is the same at *Königsberg* as at *Dantzic*; except that the Mark is equal to 63 Os. and the sub-divisions in proportion.

Commercial Weights.

BERLIN.

				Avoir. lbs.
2 Hellers	are	1 Pfennig,	equal to	0·00203698
4 Pfennig	..	1 Quintin	.....	0·0081479
4 Quintins	...	1 Loth	.....	0·032516
2 Loths	...	1 Ounce	.....	0·064583
8 Ounces	...	1 Mark	.....	0·516
2 Marks	...	1 Pound	.....	1·033
22 Pounds	...	1 Steine (or Stone)		22·733
5 Steine, or 110lbs		1 Centner	.....	113·666
14 Pounds	...	1 Lispond	.....	14·466
20 Lisponds	...	1 Ship-pound	.....	2893
12 Ship-pounds...		1 Ship-last	.....	3474
A Last of Salt is 3260 Prussian Pounds, or 33684 Eng. lbs.				

DANTZIC.

16 Ounces are	1 Pound, equal to	0 97
16 Pounds	1 Lispond	15 53
24 Pounds	1 Small Stone	23 28
34 Pounds	1 Great Stone	32 98
120 Pounds	1 Centner	310 4
320 Pounds	1 Ship-pound	310 4
A Last of Flax is		
A Tonne of Butter is		
The <i>Berlin</i> Weights are used at <i>Königsberg</i> .		

MEASURES.

Corn Measure.

BERLIN.

			Win. Bushels.
8 Metzes are equal to	1 Viertel, equal to	0.185416	
2 Viertels	1 Scheffel	1.483	
12 Scheffels	1 Malter	17.8	
2 Malters	1 Wispel	35.6	
2 Wispels	1 Last of Oats	71.2	
3 Wispels	1 Last of Wheat	106.8	

DANTZIC.

4 Metzens are equal to	1 Viertel, equal to	0.35283
4 Viertels	1 Scheffel	1.4083
16 Scheffels	1 Malter	22.566
3½ Malters	1 Last	86

At Königsberg 43 new Scheffels are equal to 63 English Bushels; and 20 Lasts are equal to 207 English Quarters.

Liquid Measure.

BERLIN.

			Eng. Gall.
6 Oessels are	1 Mass or Quart, equal to	0.30467	
32 Quarts ...	1 Anker	9½	
2 Ankers ...	1 Eimer	19½	
2 Eimers ...	1 Ohm	39	
1½ Ohms ...	1 Oxhoft	58½	
4 Oxhofts ...	1 Fuder of Wine	234	

2 Oessels are	equal to	1 Quart, equal to	0.101536
24 Quarts		1 Aemgen	2.43736
4 Aemgens		1 Tonne	9.74946
2 Tonnes		1 Fass	19.49092
2 Fasses		1 Rupe	38.99784
9 Rupes		1 Gebraude of Beer	350.98056

DANTZIC.

			Eng. Gall.
5½ Stofs are	1 Stof, equal to	0.45303	
5½ Viertels	1 Viertel	2.49166	
4 Viertels	1 Anker	12.4583	
4 Ankers	1 Ohm	49.833	
1½ Ohms	1 Oxhoft	74.75	
2 Ohms	1 Both, or Pipe	99½	
4 Oxhofts	1 Fuder, or Fass	299	
2 Fasses	1 Last of Wine	598	

A Last of Beer contains 12 Tonnes, or Barrels, or 1080 Stofs. The Stof is equal to 141 English Cubic Inches, or Half a Gallon. Hence, the Last is equal to 540 Gallons. A Barrel of Meed, or Honey, is 100 Stofs, or 50 Gallons.

Long Measure.

BERLIN.

The Berlin Foot is divided into 12 Inches, and is equal to 12½ English Inches. Hence, 60 Berlin Feet are equal to 61 English. The Rhineland Foot is used by Engineers and Land-surveyors, and is equal to 12½ English Inches; or 33 Rhineland Feet are equal to 34 English. A Ruthe is 12 Rhineland Feet. The chief commercial measure is the Ell, which is equal to 26½ English Inches, or 48 Ells are equal to 35 English Yards.

DANTZIC.

The Dantzic Foot contains 12 Inches, and is equal to 11½ English Inches. 120 Danish Feet are, therefore, equal to 113 English Feet. The Danish Ell is equal to 2 Feet; and, hence, 180 such Ells, are equal to 113 English Yards. The Arn is used for measuring Linens, and is equal to Half an English Ell.

The following Measures are also used.

			English Feet.
3 Ells are	equal to	1 Clefter, or Fathom	5.65
7½ Ells, or 15 Feet.....		1 Ruthe, or Perch	14.125
10 Ruthes		1 Seil	141.25
1800 Ruthes		1 Mile	25,425

Square Measure.

BERLIN.

The Morgen is the unit of Land Measure at Berlin, and is of two kinds, Great and Little. The following are their respective Values.

			English Acres.
180 Square Ruthes are	1 Little Morgen, equal	0.63125	
400 Ditto ...	1 Great Morgen	1.4028	
2 Great Morgens ...	1 Hacken Hufe	2.8056	
30 Great } Morgens...	1 Great Hufe of Land	42.084	
66½ Little }			

DANTZIC.

The Morgen, or Acre, at Dantzic, is rather less than the Great Morgen at Berlin.

300 Square Ruthes are	1 Morgen, equal	1.375
30 Morgens ...	1 Polish Hacken	27.5
30 Morgens ...	1 Hufe of Land	41.25
60 Pipe Staves are one	1 Shock, 4 Shocks a Last, 80 Cubic Feet of Timber are a Last.	

EXCHANGES.

(October, 1820.)

BERLIN.

Berlin usually Exchanges, direct, with the following Places. Many transactions with others are usually executed through the medium of one of these. The rates of Exchange at present, are with

Amsterdam at	145½ Rixthalers for	100 Thalers Banco
Breslau ...	99	100 Rixthalers
Hamburg ...	154	100 Rixthalers Banco
Leipsic ...	104	100 Rixthalers Current
London ...	6 Rixt. 20½ G.Gro.	1 Pound Sterling
Paris ...	81½	300 Francs
Vienna ...	104 Rixt. 20 G.Gro.	100 Thalers Current

DANTZIC.

Dantzic does not usually Exchange directly with any but the following Places; and the present rate of Exchange is, viz. with

Amsterdam at	415 Groschen for	1 Pound Flemish
Hamburg ...	182	1 Rixthaler Banco
London ...	30 Florins	1 Pound Sterling.

EXTRACTS FROM THE ACTS OF CONGRESS.

IN FAVOUR OF PRUSSIA.

From the General Treaty signed at Vienna, 9th June, 1815.

ARTICLE XV.—“His Majesty the King of Saxony renounces in perpetuity for himself, and all his descendants and successors, in favour of His Majesty the King of Prussia, all his right and title to the provinces, districts, and territories, or parts of territories, of the Kingdom of Saxony, hereafter named; and His Majesty the King of Prussia shall possess those countries in complete sovereignty and property, and shall unite them to His Monarchy. The districts and territories thus ceded, shall be separated from the rest of the Kingdom of Saxony by a line, which henceforth shall form the frontier between the Prussian and Saxon territories, so that all that is comprised in the limit formed by this line, shall be restored to His Majesty the King of Saxony; but His Majesty renounces all those districts and territories that are situated beyond that line, and which belonged to him before the war.

“The line shall begin from the frontiers of Bohemia near Wiese, in the neighbourhood of Seidenberg, following the stream of the river Wittich, until its junction with the Nefasse.

“From the Neisse it shall pass to the circle of Eigen, between Tauchritz, which shall belong to Prussia, and Bertschoff, which shall remain to Saxony; then it shall follow the northern frontier of the circle of Eigen, to the angle between Pulsdorf and Ober-Schland; thence it shall be continued to the limits that separate the circle of Görlitz from that of Bautzen, in such a manner that Ober-Mettel and Neider-Schland-Olich, and Radewitz, remain in the possession of Saxony.

“The great post-road between Görlitz and Bautzen shall belong to Prussia, as far as the limits of the said circles. Then the line shall follow the frontier of the circle to Dubrau; it shall then extend upon the heights to the right of the Löbauer-Wasser, so that this rivulet, with its two banks, and the places upon them, as far as Nendorf, shall remain, with this village to Saxony.

“The line shall then fall again upon the Spree, and the Schwarz-Wasser, Liska, Hermsdorf, Ketten, and Solahdorf, are assigned to Prussia.

“From the Schwarze-Elster, near Solchdorf, a right line shall be drawn from the frontier of the lordship of Königsbruch, near Grossgraben. This lordship remains to Saxony, and the line shall follow its northern boundary as far as the Bailiwick of Grossenhayn, in the neighbourhood of Ortrand: Ortrand, and the road from that place by Merzdorf, Stolzenhayn, and Gröbels, to Mühlberg, (with the villages on that road, so that no part of it remain beyond the Prussian Territory) shall be under the government of Prussia. The frontier from Gröbels shall be traced to the Elbe near Fichtenberg, and then shall follow the bailiwick of Mühlberg. Fichtenberg shall be the property of Prussia.

“From the Elbe to the frontier of the country of Merseburg, it shall be so regulated that the bailiwicks of Torgau, Eilenburg, and Delitzsch, shall pass to Prussia, while those of Onchatz, Wurzen, and Leipsic, shall remain to Saxony. The line shall follow the frontiers of these bailiwicks, dividing some inclosures and demi-inclosures. The road from Mühlberg to Eilenburg, shall be wholly within the Prussian territory.

“From Pödelwitz (belonging to the Bailiwick of Leipsic, and remaining to Saxony) as far as Eytra, which also remains to her, the line shall divide the country of Merseburg in such a manner that Breitenfeld, Haenichen, Gross, and Klein-Dolzig, Mark-Ranstadt, and Knaut-Nauendorf, remain to Saxony; and Modelwitz, Skenditz, Klein-Liebenau, Alt-Ramstadt, Schkohlen, and Zietschen, pass to Prussia.

“From thence the line shall divide the bailiwick of Pegau, between the Floss-graben and the Weisse-Elster; the former, from the point where it separates itself above the town of Crossen (which forms part of the bailiwick of Haynsburg) from the Weisse-Elster, to the point where it joins the Saale below the town of Merseburg, shall belong, in its whole course between those two towns, with both its banks, to the Prussian territory.

“From thence, where the frontier touches upon that of the country of Zeitz, the line shall follow it as far as the boundary of the country of Altenburg, near Luckau.

“The frontiers of the circle of Neustadt, which wholly fall under the dominion of Prussia, remain untouched.

“The inclosures of Voigtland, in the district of Reuss, that is to say, Gefall, Buntendorf, Spatenburg, and Blankenberg, are comprised in the share of Prussia.”

ARTICLE XVI.—“The provinces and districts of the kingdom of Saxony, which are transferred to the dominion of His Majesty the King of Prussia, shall be distinguished by the name of the Duchy of Saxony, and His Majesty shall add to his titles, those of Duke of Saxony, Landgrave of Thuringia, Margrave of the two Lusatias, and Count of Henneberg.”

ARTICLE XXIII.—“His Majesty the King of Prussia having in consequence of the last war, reassumed the possession of the provinces and territories which had been ceded by the Peace of Tilfit, it is acknowledged and declared by the present Article that His Majesty, His Heirs and Successors, shall possess anew, as formerly, in full property and sovereignty, the following countries; that is to say:

"Those of his ancient Provinces of Boand specified by Article II; the city of Cassel and its territory, as the latter was determined by the Treaty of Tilsit; the circle of Cottbus; the city of Merseburg; the part of the circle of Magdeburg situated on the left bank of the Elbe, together with the circle of the Saale; the principality of Halberstadt, with the lordships of Derenburg, and of Hassenrode; the town and territory of Quedlinburg, (save and except the rights of Her Royal Highness the Princess Sophia Albertine of Sweden, Abbess of Quedlinburg, conformably to the arrangements made in 1803;) the Prussian part of the county of Mansfeld; the Prussian part of the county of Hohenstein; the Elchsfeld; the town of Nordhausen with its territory; the town of Mühlhausen with its territory; the Prussian part of the district of Treflur with Dössa; the town and territory of Erfurt, with the exception of Klein-Brembach, and Balstede, included in the principality of Weimar, ceded to the Grand Duke of Saxe-Weimar by the 29th Article; the bailiwick of Wandersleben, belonging to the county of Unterg-leichen; the principality of Paderborn, with the Prussian part of the bailiwicks of Schwallenberg, Oldenberg, and Stoppelberg, and the jurisdictions (*Gerichte*) of Hagendorn and Odenhausen, situated in the territory of Lippe; the county of Mark, with the part of Lipstadt belonging to it; the county of Werden; the county of Essen; the part of the Duchy of Cleves on the right bank of the Rhine, with the town and fortress of Wesel; the part of the Duchy, situated on the left bank, specified in Article 25th; the secularized Chapter of Elten; the principality of Munster, that is to say, the Prussian part of the former Bishopric of Munster, with the exception of that part which has been ceded to His Britannic Majesty, King of Hanover, in virtue of the 28th Article; the secularized Provostship of Cappenburg; the county Teckledberg; the county of Lingen, with the exception of that part ceded to the kingdom of Hanover by Article 27; the principality of Minden; the county Ravensberg; the secularized Chapter of Herford; the principality of Neufchatel, with the county of Valengen, such as their frontiers are regulated by the Treaty of Paris, and by the 76th Article of this General Treaty. The same disposition extends to the rights of sovereignty and *suzeraineté* over the county of Wernigerode, to that of high protection over the County of Hohen-Limbouurg, and to all the other rights or pretensions whatsoever which His Prussian Majesty possessed and exercised, before the Peace of Tilsit, and which he has not renounced by other Treaties, Acts, or Conventions."

ARTICLE XXIV.—"His Majesty the King of Prussia shall unite to His Monarchy in Germany, on this side of the Rhine, to be possessed by him and his Successors in full property and sovereignty, the following countries.

* "The provinces of Saxony designated in Article 15, with the exception of the places and territories ceded, in virtue of Article 29, to His Highness the Grand Duke of Saxe-Weimar; the territories ceded to Prussia by his Britannic Majesty, King of Hanover, by Article 29; part of the department of Fulda; and such of the territories comprehended therein as are specified in Article 40; the town and territory of Wetzlar according to Article 12; the Grand Duchy of Berg with the lordships of Hardenberg, Broch, Styrum, Scholler, and Odenthal, formerly belonging to the said Duchy, under the Palatine government; the districts of the ancient Archbishopric of Colonge, lately belonging to the Grand Duchy of Berg: the Duchy of Westphalia, as lately possessed by His Royal Highness the Grand Duke of Hesse; the county of Dortmund; the principality of Corfey; the mediatised districts specified in Article 43. The ancient possessions of the house of Nassau-Dietz having been ceded to Prussia by His Majesty the King of the Netherlands, and a part of these possessions having been exchanged for the districts belonging to their Serene Highnesses the Duke and Prince of Nassau, the King of Prussia shall possess them, in sovereignty and property, and unite them to his monarchy.

"1. The Principality of Siegen, with the Bailiwicks of Burbach and Neunkirchen, with the exception of a part containing 12,000 inhabitants, to belong to the Duke and Prince of Nassau.

"2. The Bailiwicks of Hohen-Solms, Greifenstein, Braunfels, Freusberg, Friedewald, Schönstein, Schönberg, Altenkirchen, Altenwied, Dierdorf, Neuerburg, Linz, Hammerstein, with Engers and Heddesdorf; the town and territory (*Banlieue Germarkung*) of Newied; the parishes of Hamm, belonging to the bailiwick of Hackenberg; the parish of Horhausen, constituting part of the bailiwick of Horsbach and the parts of the bailiwicks of Vallendar and Ehrenbreitstein, on the right bank of the Rhine, designated in the Convention concluded between his Majesty the King of Prussia and their Serene Highnesses the Duke and Prince of Nassau, annexed to the present Treaty."

"ARTICLE XXV.—"His Majesty the King of Prussia shall also possess in full property and sovereignty, the countries on the left bank of the Rhine, included in the frontier hereinafter designated.

"This frontier shall commence on the Rhine, at Bingen; it shall thence ascend the course of the Nahe, to the junction of this river with the Glan, and along the Glan to the village of Medarf, below Lauterecken; the towns of Kreutznach and Meisenheim, with their territories, to belong entirely to Prussia; but Lauterecken and its territory to remain beyond the Prussian frontier. From the Glan the frontier shall pass by Medarf, Merzweiler, Langweiler, Neideer, and Ober Fechenbach, Ellenbach, Chreunchenborn, Ausweiler, Cronweiler, Niederbrunnbach, Burbach, Boschweiler, Heubweiler, Hambach, and Rintzenberg, to the limits of the Canton of Hermes-Keil; the above places shall be included within the Prussian frontiers, and shall, together with their territories, belong to Prussia. From Rintzenberg to the Sarre, the line of demarcation shall follow the cantonal limits, so that the Cantons of Hermeskeil and Cong (in which latter, however, are excepted the places on the left bank of the Sarre) shall remain wholly to Prussia, while the Cantons of Wadern, Merzig, and Sarrebourg, are to be beyond the Prussian frontier.

"From the point where the limit of the Canton of Konz, below Gomlingen, traverses the Sarre, the line shall descend the Sarre till it falls into the Moselle, thence it shall reascend the Moselle to its junction with the Sarre, from the latter river to the mouth of the Our, and along the Our to the limits of the ancient

department of the Ourthe. The places traversed by these rivers, shall not at all be divided, but shall belong, with their territories, to the Power, in whose State the greater part of these places shall be situated; the rivers themselves, in so far as they form the frontier, shall belong in common to the two Powers bordering on them. In the old department of the Ourthe, the five Cantons of Saint-Vith, Malmedy, Cronenburg, Schleiden, and Eupen, with the advanced point of the Canton of Aubel, to the south of Aix-la-Chapelle, shall belong to Prussia, and the frontier shall follow that of these cantons, so that a line drawn from north to south, may cut the said point of the canton of Aubel, and be prolonged as far as the point of contact of the three old departments of the Ourthe, the Lower Meuse, and the Roer; leaving that point, the frontier shall follow the line which separates these two last departments till it reaches the river Worm, which falls into the Roer, and shall go along this river to the point where it again touches the limits of these two departments; when it shall pursue that limit to the south of Hillensberg, shall ascend from thence towards the north, and leaving Hillensberg to Prussia, and cutting the canton of Sittard in two parts, nearly equal, so that Sittard and Susteren remain on the left, shall reach the old Dutch territory; then following the old frontier of that territory, to the point where it touched the old Austrian principality of Gueldres, on the side of Ruremonde, and directing itself towards the most eastern point of the Dutch territory, to the north of Swalmen, it shall continue to inclose this territory.

"Then, setting out from the most eastern point, it joins that other part of the Dutch territory in which Venloo is situated, without including the latter town and its district: Thence to the old Dutch frontier near Mook, situated below Genep, it shall follow the course of the Meuse, at such a distance from the right bank, as that all the places situated within a thousand Rhenish yards (*Rheinlandische Ruthen*) of this bank, shall, with their territories, belong to the kingdom of the Netherlands; it being well understood, however, in regard to the reciprocity of this principle, that no point of the bank of the Meuse shall constitute a portion of the Prussian territory, unless such point approach to within eight hundred Rhenish yards of it.

"From the point where the line just described joins the old Dutch frontier, as far as the Rhine, this frontier shall remain essentially as it was in 1795, between Cleves and the United Provinces. It shall be examined by the Commission, which shall be appointed without delay, by the two Governments, to proceed to the exact determination of the limits, both of the kingdom of the Netherlands and the Grand Duchy of Luxembourg, designated in Articles 66 and 68, and this Commission shall regulate, with the aid of experienced persons, whatever concerns the hydrotechnical constructions, and other analogous points, in the most equitable manner, and conformably to the mutual interests of the Prussian states and of those of the Netherlands. This same disposition extends to the regulation of the limits, in the districts of Kyfwaerd, Lobith, and all the territory of Kekerdom.

"The Prussian provinces upon the two banks of the Rhine, as far as above the town of Cologne, which shall also be comprised within this district, shall bear the name of Grand Duchy of the Lower Rhine, and his Majesty shall assume the title of it."

ARTICLE XXIX.—"His Majesty the King of the United Kingdom of Great Britain and Ireland, King of Hanover, cedes to his Majesty the King of Prussia, to be possessed by him and his Successors, in full property and sovereignty,

"1. That part of the Duchy of Lauenbourg situated upon the right bank of the Elbe, with the villages of Lunebourg situated on the same bank. The part of the Duchy upon the left bank remains to the kingdom of Hanover. The States of that part of the Duchy which passes under the Prussian Government shall preserve their rights and privileges; especially those founded upon the provincial recess of the 15th September, 1702, and confirmed by the King of Great Britain, now reigning, under date of June 21, 1765.

"2. The bailiwick of Klötze.

"3. The bailiwick of Elbingsode.

"4. The villages of Rudegershagen and Genseteich.

"5. The bailiwick of Reckeberg.

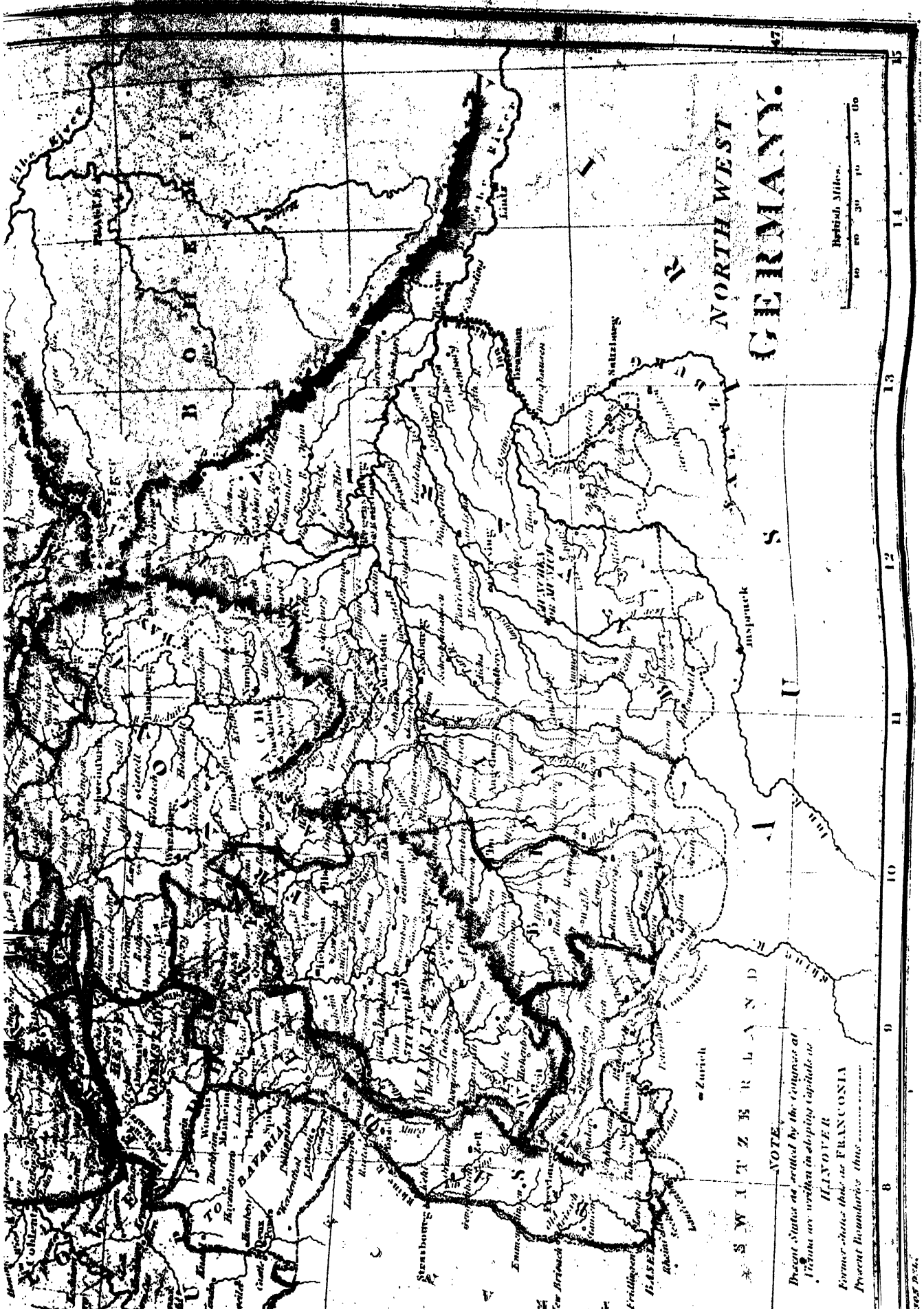
"His Britannic Majesty, King of Hanover, renounces for himself, his descendants and successors for ever, the provinces and districts specified in the present Article, and all the rights which have reference to them."

ARTICLE XL.—"The department of Fulda, together with the territories of the neighbouring ancient Noblesse, comprised, at this moment, under the provisional Administration of this department, viz., Mansbach, Buchenau, Werda, Lengsfeld, excepting, however, the following bailiwicks and territories, viz.; the Bailiwicks of Hammelburg, with Thalba, and Saleek, Brückenau, with Motten, Saalamünster, with Urael, and Sonnerz; also the part of the Bailiwick of Biberstein, which contains the villages of Batten, Brand, Dietges, Findlos, Liebarts, Melperz, Ober-Bernharst, Saifferts, and Thaiden, as well as the domain of Holkskirchen, inclosed in the Grand Duchy of Würzburg, is ceded to his Majesty the King of Prussia, and he shall be put in possession of it within three weeks from and after the 15th June of this year.

"His Prussian Majesty engages to take upon Himself, in proportion to that part of the territory which he obtains by the present Article, his share of the obligations which all the new possessions of the heretofore Grand Duchy of Frankfort will have to fulfil, and to transfer such engagements to the Princes with whom his Majesty may hereafter make exchanges or cessions of these districts and territories of the department of Fulda."

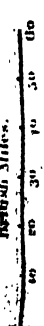
ARTICLE XLII.—"The town and territory of Wetzlar passes, in all property and sovereignty, to his Majesty the king of Prussia."





NORTH WEST GERMANY.

British Miles.



NOTE.
*Present States as settled by the Congress at
 Vienna are written in sloping capitals as
 HANNOVER
 Former states thus as FRANCONIA
 Present boundaries thus*

KINGDOM OF BAVARIA.

CHAPTER I.

Name—Situation—Boundaries—Extent—Population—Original Inhabitants—Progressive Geography—Present Division and Distribution of the Inhabitants.

BAVARIA, which now constitutes one of the principal secondary States of Germany, derived its name from the circle so called, and which formed one of the great divisions of the German empire previously to its dissolution, in 1806. It is one of those kingdoms that under the influence of Buonaparte, sprung from the wreck of that empire. Bavaria occupies a part of southern Germany; and is bounded by the Tyrol and Salzburg, on the south; by Austria Proper and Bohemia on the east; by the Grand Duchy of Fulda and some of the smaller Saxon principalities, on the north; and by Isenburg, Hesse-Darmstadt, Baden, Wirtemberg, and the Lordships of Voralberg, on the west.

The **EXTENT** of this kingdom is now estimated at nearly 40,000 square English miles, and the population at about four millions and a half, which consequently gives a medium population of more than 112 persons to a square mile. The **ORIGINAL** Inhabitants sprung from the same source as the other people of Germany, particularly those of the adjacent provinces of the Austrian empire.

This kingdom had its origin in 1806. In that year the disasters of the campaign had induced Austria to purchase peace at the expense of a part of her territories; and the alliance which had been formed between Buonaparte and the Duke of Bavaria, having contributed to the accomplishment of that event, Bavaria was raised into a kingdom, and the territories increased by a part of the ceded dominions of Austria. The eastern part of Passau, Tyrol, Eichstadt; the Burgau, Konigseck, Rothenfels, and some other districts, were then added to the late dukedom.

On the dissolution of the ancient German constitution, and the formation of the Confederation of the Rhine in the same year, Bavaria resigned the duchy of **Berg**, in return for which she received the principality of Anspach, and the imperial towns and territories of Augsburg and Nuremberg. This new power again took part with France against Austria, in 1809, and when the latter was obliged to conclude the peace of Vienna, Bavaria partook of the sacrifices by which it was purchased, but soon after ceded some of her territories to Wirtemberg and Wurtzburg. Other changes also took place at a subsequent period of the alliance between Bavaria and France. Among these was that of a great part of the Tyrol for Bayreuth and Ratisbon.

Previously to October, 1809, the extent of Bavaria was computed at 36,770 English square miles, and the population at 3,231,570; while the contingent of troops to be furnished in time of war was fixed at 30,000. But by the treaty made in that month, she acquired an additional territory of 5550 square miles, and a

population of 1,492,000. The extent was therefore at that time 42,320 square miles, and the population 4,723,570.

When the possession of unparalleled power, and the intoxication of unvaried success, led Buonaparte to sacrifice the repose of Europe to the gratification of his own insatiable ambition, the king of Bavaria formed an alliance with the emperor of Austria, and joined the common cause. These services were not forgotten, and at the subsequent negotiations at the Congress at Vienna, Bavaria received her share of the spoils she had assisted to gain. The title of the king was confirmed; a part of the contribution money paid by France assigned to him, and the support of a body of Bavarian troops in France, at the expense of that country, acknowledged. Though the remainder of Tyrol was restored to Austria, the grand duchy of Wurtzburg, the principality of Aschaffenburg, and the greater part of the *ci-devant* French department of Mont Tonnere, were acquired by Bavaria in its stead. These new territories amount to about 4000 square miles, and more than half a million of inhabitants. So that the present territorial extent and population of Bavaria are as above stated.

Bavaria was divided, in 1810, into the following circles, or provinces, to which the principal towns are annexed, viz.

<i>Circles.</i>	<i>Principal Towns.</i>
The Maine	Bamberg
The Rezat	Anspach
The Upper Danube	Eichstadt
The Lower Danube	Passau
The Regen	Ratisbon
The Iller	Kempton
The Iser	MUNICH.

Some alteration has since been made in the territorial extent of the above provinces, in consequence of the exchanges that have taken place between Austria and Bavaria. The late acquisitions must also be annexed. These are

The Principality of Aschaffenburg	Aschaffenburg
The Grand Duchy of Wurtzburg	Wurtzburg
The Circle of the Rhine (late Mont Tonnere)	Landau.

The population of Bavaria is by no means equally diffused over the surface of the country. Along both sides of the Danube, and to a considerable distance from its banks, the inhabitants are more compact than either towards the southern borders, or in the higher parts of the late palatinate. The lower districts of the Grand Duchy of Wurtzburg, some districts of the Margraviate of Anspach, with the recent acquisitions on the left bank of the Rhine, maintain a greater population than other parts. The number of persons to a square mile in this last province is about 143, while in many parts of the kingdom it does not exceed half that number.

CHAPTER II.

Outlines—General Surface—Mountains—Rivers—Lakes—Canals—Climate and Seasons—Soil—Culture—Products.

BAVARIA being surrounded by other countries, and the divisions being mere arbitrary lines, or at most marked by a river or a ridge of mountains, its **OUTLINES** cannot present any thing remarkable. The **SURFACE** is greatly diversified. Towards the south, it is principally mountainous and woody. The ground rises as it approaches the Alps, and contains numerous lakes and wastes, with little that has yet been brought into cultivation. Much of the Palatinate of Bavaria also swells into mountains, and is covered with forests; while towards the central and northern regions of the kingdom, there are extensive and fertile plains. The Margraviate of Anspach is in part mountainous and sandy; but it also includes much that is productive of various kinds of grain, and affords good pasturage. The lower parts of Bavaria Proper, and some districts of the grand Duchy of Wurtzburg, are likewise fertile; but the most fruitful portions are the extensive vales on the east and north-east of Munich, which are watered by the Iser and the Inn.

The longest range of mountains, within the limits of the Bavarian monarchy, is that branch of the Alps which separates it from Tyrol. This chain is less elevated than the Swiss Alps, and are chiefly covered with forests which produce immense quantities of timber; but the difficulty of conveying it to the rivers, that it may be floated to other parts of the continent, renders it of little value. The chief of these ramifications of the Alps is denominated *Kalkstein*, by the neighbouring inhabitants. Bohemia is divided from the kingdom of Bavaria by an elevated chain, while the lateral branches diversify the surface of the adjacent regions. Part of Anspach, and some other districts, are mountainous; and the province on the left bank of the Rhine, lately in the possession of France, is a hilly region.

Bavaria is intersected by numerous **RIVERS**, some of which flow from the southern regions into the Danube, and others from the northern frontier to the same receptacle. The **Danube** is the principal river, and pervades the kingdom from east to west; though not without a considerable sweep towards the north. As this channel, therefore, receives most of the other rivers, the face of the country inclines both ways towards its banks, except a part of the western regions, which belongs to the basin of the Rhine. The principal rivers which water the Bavarian territories from the south, are the Inn, the Iser, the Lech, and the Iller. From the north, the chief streams are the Nab and the Altmuhl. The **INN** descends from the elevated regions in the eastern part of Switzerland, whose waters flow on the one hand into the Black Sea, and on the other into the Adriatic. Like its sister streams, it soon becomes a rapid river, and having collected a great body of water, it rolls towards the north-east, through the kingdom of Bavaria, till it forms the boundary between that monarchy and the empire of Austria, and falls into the Danube at Passau, after a course of 250 miles. The quantity of its water is nearly equal to that of the Danube itself, at their junction. Innspruck and Braunau are the two principal cities on its banks.

The **ISER** and the **LECH** both rise in the mountains of Tyrol, and flow through the southern regions of Bavaria. The former passes Munich, Mosburg, and Land-

shot, and then joins the Danube opposite to Deckendorf. The latter passes Augsburg, and flows almost north to the Danube. These are large rivers, but inferior to the Inn, both in length of course, and quality of water. The ILLER flows nearly parallel to the Lech, and joins the Danube above the city of Ulm.

The river NAB, issues from the northern part of the mountainous range which separates Bohemia from Bavaria, and winds its way towards the south, till it falls into the Danube, on the west of Ratisbon. The ALTMÜHL, which has its source in the higher parts of the Margraviate of Anspach, directs its course first towards the south-east, and then to the east. Afterwards making a sweep to the north, and assuming nearly its first direction, it terminates in the Danube a few miles above the mouth of the Nab.

Several LAKES diversify this kingdom, especially in the southern parts, but they are too unimportant to require a particular description. The principal one is the *Ammer*. It is situated near the foot of the Alps, about half way between the Iser and the Lech, and through which one branch of the former river flows. There is also another considerable lake further to the east. The greatest extent of both is from north to south.

The situation of the country, and the variety in the elevation of its surface, cause a correspondent variation in its CLIMATE and temperature; for while the vine flourishes luxuriantly in one district, the fir attains maturity in another. This variety, therefore, renders Bavaria capable of yielding all the productions of the soil which the common conveniences, and even many of the luxuries of life embrace. Yet from the indolence of the inhabitants and the rude state of cultivation, few places produce what they ought; and thousands of acres of good land are suffered to lie waste. In several districts, particularly along the vales watered by the chief rivers, the soil is rich; while many of the upland parts are stony and barren, and some large tracts of sand seem to bid defiance to the art of cultivation. The plains produce grain, fruit, wine, and hops. The first of these is annually exported, in large quantities, from the province of Anspach. The lower parts of Bavaria Proper, and some districts of the grand duchy of Wurtzburg, are the most fertile, though agriculture has made greater progress in other places. Flax is cultivated in the district called the Bavarian desert, and the vine on the banks of the Danube and the Iser. Much fruit is also grown in the vicinity of Landshut.

The breed of horses in Anspach is good, and has of late been much improved by an intermixture with those of England. Similar attention has been paid to the improvement of their cattle, by crossing them with the Swiss breed. Great numbers of oxen are fed every year in that province, and sent to Alsace. Less attention has been paid to this branch of domestic economy in other parts of the kingdom. The original breed of sheep is bad, but their wool has been much improved by the introduction of *Merinos*, particularly in Bavaria Proper. The wild animals that range in the woods, and take refuge in the mountains, of Bavaria, are principally the bear, the wolf, the lynx, the wild boar, and the marten. Most of the rivers and lakes abound with fish; and the beaver is found in some of them.

Bavaria produces various MINERALS, among which are Iron and Copper. The former is the most abundant and valuable; and the latter amounts to about 3000 quintals annually. It also yields coal, marble, gypsum, vitriol, and several kinds of argillaceous earth, particularly the species of clay used in making the Passau Crucibles. Salt is likewise one of the principal products of this kingdom. The most noted depôt of this mineral is at Traustein, near the borders of Salzburg, where the springs supply employment to a great number of people in extracting the salt.—MINERAL WATERS are found in various places in Bavaria; but they are of inferior note to many springs in other parts of Germany.

CHAPTER III.

Principal Cities, Towns, and Buildings—Manufactures and Commerce.

THE capital of the Bavarian monarchy is MUNICH, which is one of the most pleasant and populous cities in Germany. It is situated on the river Iser. Many of its streets are wide and handsome, with canals flowing through them. The advantages of Munich as a residence are strongly attested by the great increase of population it has experienced within a few years. At the commencement of the present century, the number of its inhabitants was stated at 40,000; but from a description of that city, published in 1814, it was then 60,000, and that of the suburbs 18,659; besides which, it was annually visited by about 26,000 strangers. Its importance as a military post is manifested from the number of times it has been taken and retaken in the wars of Germany.

The king's palace is one of the most magnificent structures in Europe. The cabinet of Natural Curiosities, the Library, the Arsenal, and the Ducal Gardens, all deserve the traveller's attention. The Library contains about 400,000 volumes, nearly 9000 of which are manuscripts. The Medals in the Cabinet amount to about 10,000; and the Museum of Antiquities contains a complete series of busts of the Roman emperors. Many of the buildings, both public and private, are handsome edifices. Munich is the centre of the most valuable manufactures in the kingdom. It was rendered, by the concordat of 1817, the seat of an archbishop; and great efforts are making to raise it to the literary rank of one of the first cities in Germany. Its Royal Academy of Sciences, founded by Maximilian Joseph, in 1759, has not only been the means of diffusing useful knowledge among all classes of the community, but of raising the literary fame of Munich much above its former level.

The second place in the kingdom of Bavaria, both in population and celebrity, is AUGSBURG, which was formerly one of the free and imperial cities of Germany. It is situated at the confluence of the Wertach and the Lech. Though less flourishing than in former times, Augsburg contains a population of about 30,000 individuals, and is well fortified in the ancient style; having four principal gates and six smaller ones. This town also partakes largely in the manufactures and commerce of the country, and has long been distinguished for its engravings. By means of its agents and bankers, Augsburg is the general medium of exchange with other countries; as well as a central depôt for the Neckar, Tyrolese, Greek and Italian wines. Another branch of its commercial transactions is that of book-selling, especially in Catholic literature. Nor has Augsburg been less distinguished in the religious dissensions than in the military transactions of Germany. Here the celebrated confession of the Protestant faith, drawn up by Luther and Melancthon, was presented, in 1530. Here the well known *Interim* was published, in 1548,—and here the convention of Passau was confirmed, and the peace which terminated the religious war was concluded, in 1555. It was also fixed upon as the seat of one of the bishops of Bavaria, by the concordat of 1817. It has frequently suffered by military force, a calamity in which it has participated no less than five times since the commencement of the French Revolution.

RATISBON is an ancient, rich, handsome, and strong city, and a bishop's

see, situated on the Danube, with an easy communication with many other parts of Germany. It was one of the free and imperial cities of the German empire, and the place where the general Diet met. The city is large, and the public places are all ornamented with fountains. Among its buildings, the city Hotel and the great Hall deserve particular notice. Ratisbon has pleasant promenades along the banks of the river, and a population of about 20,000, with an extensive commerce, particularly in salt and wood; for the former of which it is a general depôt. But Ratisbon has now fallen from being the first of the imperial cities of the German empire, to a capital of one of the Bavarian circles.

BAMBERG, the capital of the Bavarian circle of the Maine, is a large and populous town, containing about 20,000 inhabitants. It carries on a good trade by means of the rivers Regnitz and Maine, at the confluence of which it is situated. Bamberg is partly encompassed with walls and ditches, and contains many interesting objects. Among these are the Library which belonged to the Carmelite Monastery, and the University. This Library contains about 14,000 volumes, besides many curious and valuable manuscripts. The University was originally founded as an Academy by bishop Otto, in 1147, but obtained the title and privileges of a University, through one of its bishops, in 1739. It was converted into a Lyceum in 1802, but still retains its ancient constitution. Bamberg, now one of the sees of the Bavarian archbishops, is particularly distinguished for its excellent vegetables, with which a number of other places are supplied.

ANSPACH is situated on the lower Rezat, and was formerly the capital of the Margraviate of that name. It is now the principal city of the Bavarian circle of the Rezat, and with the neighbouring communes, contains about 12,000 inhabitants. The objects most worthy of attention, are the prince's palace, gardens, and library, with the Academy, which is conducted by an inspector, three professors, and other masters. The principal manufactures of Anspach are woollen and cotton cloths, earthen-ware, and white-lead.

BAYREUTH is situated near the MAINE, and is a handsome town, with broad and regular streets. It is entered by six gates, and contains about 10,000 inhabitants. Several of the public buildings deserve the stranger's attention. Among these is the old castle, which was burnt down in 1753, but has since been rebuilt; the new castle, the churches, the mint, the barracks, and the gymnasium. Its chief manufactures, are those of cloth, earthenware, and tobacco-pipes.

AMBERG was the capital of the lower palatinate. It is built on both banks of the river Vils, and contains about 9000 inhabitants. * The houses are mostly constructed of wood, but the streets are broad and clean. It has an Academy and Lyceum, with a well-endowed hospital, and several religious houses. The fortifications of Amberg consist of a strong double wall, with towers and bastions, and other works, which were principally constructed by the French, during the period they occupied the Upper Palatinate, but which are now converted into beautiful walks. Its chief manufactures are those of fire-arms, earthenware, iron, and tobacco; and there is a depôt for salt, from which many other places in that part of the kingdom are supplied.

WÜRTZBURG, the capital of the late Grand Duchy of the same name, and now the see of one of the Bavarian bishops, is a large commercial town, pleasantly situated on the Maine. It contains a superb castle, which was the residence of the Grand Duke, and a strong fortress on the opposite hill, that communicates with the city by means of a stone bridge. Its cathedral is a good building; and its general hospital is one of the largest in Europe. It has also a botanical garden, some manufactures, and a population of more than 20,000 inhabitants.

EICHSTADT, which is the capital of the circle of the Upper Danube, and the

see of one of the Bavarian bishops, is seated on the river Altmuhl, and contains about 6000 inhabitants. The king of Bavaria, has lately conferred the title of Prince of Eichstadt on Eugene Beauharnois, his son-in-law, and the former vice-roy of Italy. It does not contain any thing remarkable, except a convent, to which pilgrims are often impelled by the zeal of Catholic superstition, on account of the pretended relic of St. Wilibald.

PASSAU, is situated on the Danube, at the confluence of the Inn. It is a well-built city and fortress, supposed to contain the handsomest cathedral in Germany. The convention, called the peace of religion, was concluded here, in 1552, between Charles V., and the Protestant princes of Germany. This act set limits to the authority of that ambitious monarch, and established the reformed religion in the German empire.

INGOLSTADT is a handsome town, standing on the Danube, and esteemed the strongest place in Bavaria; but it was taken by the Austrians in 1742. It has a fine church, a noted academy, and about 5000 inhabitants.

NUREMBURG, the former capital of Franconia, is another large and handsome town, now included within the Bavarian dominions. It is distinguished by its manufactures of various fine articles. as maps, prints, mathematical and musical instruments, curious clock-work, and several articles in iron, steel, ivory, wood, and alabaster, with different kinds of toys. There is also a celebrated school for painting; and gun-powder is said to have been invented here, by Berthold Schwartz, a monk. Martin Behem, to whom the discovery of America has been ascribed, was born here. Albert Durer, the famous engraver on wood, was also a native of this place.

In addition to these, some of the other large towns, are *Kempton, Freysingen, Landshut, Mosburg, Newburg, Nordlingen, Memmingen, Schweinfurt, and Staubing*.

Several species of MANUFACTURES have been already mentioned in the preceding account of the chief towns, and these are nearly all that Bavaria contains. With respect either to the annual value of the manufactured articles, or the number of people they employ, there does not appear to be any document which affords satisfactory information. As Bavaria possesses neither sea-coast nor ports, its COMMERCE is limited to the supply of its local demand, and the disposal of a few natural products. The following summary will therefore be sufficient.

Some linen, woollen, and cotton goods of the coarser kinds are made, with glass, earthenware, hardware, and paper. These last, however, are chiefly confined to a few large towns. Friedburg is noted for its clocks and watches; and Nymphenburg for porcelain. Philosophical instruments are made at Munich; and it was here that the art of *Lithography* was discovered, and has been prosecuted with the greatest success. Near Hothen Aschan is the largest iron mine in the kingdom, accompanied by forges and founderies; the produce of which, with grain, salt, wine, vitriol, and wood, form the chief exports. The Danube, with its tributary streams, the Iser, the Leck, the Inn, and the Nab, would contribute greatly to the inland navigation of the country, if proper use were made of them; but from this easy mode of communication, little advantage has yet been derived. The forests in the upper parts of the country, supply vast stores of timber, which are floated down the rivers in large rafts to other parts of Germany. The chief trade of Munich, besides that of its own manufactures, is in grain and wood. Ratisbon supplies Vienna with grain and salt. Nuremburg is distinguished for its manufactures and trade in toys, called Nuremburg ware; and Augsburg has manufactures of paper, gold, silver, jewelry, and cotton; but its principal trade is in transmitting goods to and from Italy.

CHAPTER IV.

Government—Constitution—Jurisprudence—Army—Revenue—Political Importance and Relations.

THE GOVERNMENT of Bavaria approaches to that of an unlimited monarchy, though not without the semblance, at least, of a representative senate; but this body has of late seldom exercised its senatorial functions. Their place of meeting is at Munich.—The crown is hereditary in the male line; but when all the branches of this fail, a female may be invested with supreme power. The minority of the king terminates with his 18th year.* His privy council consists of the members of the royal family, after they have attained a certain age, the ministers of state, and the great officers of the household. Each of the circles into which the kingdom is divided, is under the government of a royal commissioner; and police commissaries reside in the principal towns. Each circle also contains a court of appeal, to which causes are removed from the lower courts, but the supreme court of the kingdom is at Munich. In the new constitution of Germany, as established by the Congress at Vienna, this state is the first of the secondary kingdoms. It has one vote in the federative diet, and four in the general assembly.

During the late war, the Bavarian army had been raised to 60,000 men; but since the return of peace, a reduction has taken place, and now it does not much exceed 40,000. The principal sources of REVENUE, are excise duties, customs, tolls, royal domains, forests, mines, salt-works, post-office, lotteries, stamp-duties, and other taxes, with the fees paid by public functionaries on their admittance into office. The whole revenue amounts to about two millions annually; but this is burdened with a considerable debt, which various circumstances have lately conspired to augment.

The POLITICAL IMPORTANCE of the second class of German states is obviously small. They are all too feeble, and too much under the influence of the great powers to become principals in a war with any of the first or second class of European nations. They are, however, of sufficient importance to be desired as auxiliaries by their more powerful neighbours, in case of war with each other. For instance, in a war between France and Austria, the alliance of Bavaria with the former, would bring her troops into the heart of Germany; and with the latter, would conduct the Austrian troops to the very borders of France. It is only in this light that its importance can be duly estimated; and some notion may be formed of the weight which necessarily attaches to the co-operation of a state like Bavaria, when we remember how decisive her declaration in favour of the allies proved, when Buonaparte was endeavouring to maintain himself at Dresden, in the year 1813.

CHAPTER V.

Religion and Ecclesiastical Geography—Education—Language and Literature—Arts and Sciences—Manners and Customs—Antiquities and Curiosities of Nature and Art.

THE prevailing RELIGION of Bavaria is the Roman Catholic, and the inhabitants were formerly ranked among the most intolerant in Europe; but more liberal sentiments now prevail, though the influence of the pope and of the clergy is still greater in Bavaria than in any other part of Germany. The Bavarian bishops were independent princes; but their temporal power was abolished in 1802. The sees of the two archbishops were fixed by a concordat agreed to by the pope, in 1817, and are at Munich and Bamberg. Those of the bishops are at Augsburg, Wurtzburg, Ratisbon, and Eichstadt. The present government has abolished many of the monastic institutions. The Protestants are estimated at about one-fourth or one-fifth of the population; and are by far the most industrious class, in consequence of the almost ceaseless train of saints' days and holy days which the Catholics observe, and which only tend to increase superstition and generate indolence.

The bigotry, ignorance, and intolerance, which long prevailed in the circle of Bavaria, were insurmountable obstacles to all liberal and enterprising views, both in the agricultural improvement, and commercial prosperity of the state. Much, however, has been done within a short period to wipe off this disgrace; and Bavaria, in consequence of these exertions, begins to emerge from her long-cherished barbarism, and to participate in the study and diffusion of more rational principles and liberal knowledge. Education has lately been much attended to. Academies, lycæums, and universities, have been multiplied, the youth of both sexes have been carefully instructed, and the effect is evident in the improved condition of society. From its situation, its extent, and the variety of its produce, Bavaria is capable of ranking high among the inferior states of Europe; but much yet remains to be done in improving its natural advantages, and full scope is still afforded for all the energies of government, in the work of moral as well as physical renovation, before this kingdom will be upon a par with several of the other states of Europe, or even with its northern neighbours, in Germany.

The LANGUAGE of Bavaria is a dialect of the German; but the Bavarians have, as yet, been little distinguished for their literary or scientific attainments. The arts have also remained at a low ebb; though the institutions that have been established, and the attention which is now paid to the diffusion of general knowledge, by the reigning sovereign, are calculated to remove that cloud of ignorance which has so long overshadowed both this and the adjacent portions of southern Germany.

The Bavarians are described as a stout and vigorous race of men, well adapted to bear the fatigues of war, and in general good soldiers. Literature and refinement have made but little progress among them; and travellers uniformly agree in representing them as among the most sensual and phlegmatic of the German nations. The picture of their MANNERS and CUSTOMS, that was drawn towards the close of the last century, is coarse in the extreme; and strongly marked by all the superstition and bigotry of their religious belief. Many of the Bavarian females are handsome, lively, and graceful; but their charms are altogether of a personal nature.

Mental cultivation is at a very low ebb among them ; and they are strongly addicted to sensual pleasures and trifling pursuits. Indolence is one of the most marked characteristics of the Bavarian character, and pervades all classes from the throne to the meanest cottage.

It has already been observed, that this indolence in the national character, may be ascribed, in a great degree, to the rigorous observance of saints'-days and holy-days. To do any work on these days would be considered as highly indecorous ; but to abandon themselves to the most unrestrained indulgence in drinking, in promiscuous love, or in any kind of revelling and amusement, are not attended with the same disgrace. In their proneness to drink and quarrel, the lower classes of the Bavarians have a striking resemblance to the Irish peasants, and form a complete contrast with their Austrian neighbours. That laxity of morals with respect to the intercourse of the sexes, which more or less pervades every part of Germany, is here carried to the greatest excess, yet, amidst all this dirty indolence and drunkenness, to which the Bavarian peasant is so much habituated, that they seem almost to be parts of his nature, he is often brave and patriotic, and so faithful to his word, that his promise is always kept with the most sacred punctuality.

Few memorable ANTIQUITIES have been found in Bavaria; some Roman stations, roads, and coins, with the relics of churches and castles, constitute the whole. But NATURAL CURIOSITIES are more abundant. Many of the mountainous districts present scenes that would deserve to be classed under this head if carefully examined. Such as have been visited by learned curiosity, have been found highly interesting. Of these, however, only the following can be selected, which we present to our readers as described by Mr. *Parkinson*, in his curious and valuable work, *The Organic remains of a former World*.

“ Among the most remarkable of these caverns are those of Gaylenreuth, on the confines of Bayreuth. The opening to these, which is about seven feet and a half high, is at the foot of a rock of lime-stone of considerable magnitude, and in its eastern side. Immediately beyond the opening is a magnificent grotto, of about three hundred feet in circumference, which has been naturally divided by the form of the roof into four caves. The first is about twenty-five feet long and wide, and varies in height from nine to eighteen feet, the roof being formed into irregular arches. Beyond this is the second cave, about twenty-eight feet long, and of nearly the same width and height with the former. In this cave the stalactitic crust begins to appear, and in considerable quantity ; but not in such quantity as in the third cave, which is beautifully hung, as it were, with this sparry tapestry. The roof now begins to slope downwards ; so that in the next, the last, of these caves, it is not above four or five feet in height. In the caves forming this first grotto, fragments of bones are found ; and it is said that they were as plentiful here as they now are in the interior grottos.

“ The passage into the second grotto is about six feet high and fourteen feet wide. This grotto, which extends straight forwards sixty feet from the opening, and is about forty feet wide, and at its commencement about eighteen feet high, would commodiously hold two hundred men. Its appearance is rendered remarkably interesting from the darkness of its recesses, and from the various brilliant reflections of the light from the stalactites with which its roofs and sides are covered. The constant drip of water from the roof, and the stalagmatic pillars on the floor, assist in perfecting the wonders of the scene. In this grotto no search was made for bones, on account of the thickness of the sparry crust.

“ A low and very rugged passage, the roof of which is formed of projecting pieces of rock, leads to the third grotto ; the opening into which is a hole three feet high and four feet wide. This grotto is more regular in its form, and is about

thirty feet in diameter, and nearly round: its height is from five to six feet. This grotto is very richly and fantastically adorned by the varying forms of its stalactitic hangings. The floor is also covered with a wet and slippery glazing, in which several teeth and jaws appear to have been fixed.

“From this grotto commences the descent to the inferior caverns. Within only about five or six feet, an opening in the floor is seen, which is partly vaulted over by a projecting piece of rock. The descent is about twenty feet; and occasioned to M. Esper and his companions some little fear lest they should never return, but remain to augment the zoolithes contained in these terrific mansions. This cavern was found to be about thirty feet in height, about fifteen feet in width, and nearly circular; the sides, roof, and floor, displaying the remains of animals. The rock itself is thickly beset with teeth and bones, and the floor is covered with a loose earth, formed by animal decomposition, and in which numerous bones are imbedded.

“A gradual descent leads to another grotto, which, with its passage, is forty feet in length, and twenty feet in height. Its sides and top are beautifully adorned with stalactites. Nearly twenty feet further is a frightful gulf, the opening of which is about fifteen feet in diameter; and upon descending about twenty feet, another grotto, about the same diameter with the former, but forty feet in height, is seen. Here the bones are dispersed about; and the floor, which is formed of animal earth, has great numbers of them imbedded in it. The bones which are here found seem to be of different animals; but in this, as well as in the former caverns, perfect and unbroken bones are very seldom found. Sometimes a tooth is seen projecting from the solid rock, through the stalactitic covering, showing that many of these wonderful remains may here be concealed. A specimen of this kind, which I possess, from Gaylenreuth, is rendered particularly interesting, by the first molar tooth of the lower jaw, with its enamel quite perfect, rising through the stalactitic mass which invests the bone. In this cavern the stalactites begin to be of a larger size, and of a more columnar form.

“Passing on, through a small opening in the rock, a small cave, seven feet long, and five feet high, is discovered; another small opening out of which leads to another small cave, from which a sloping descent leads to a cave twenty-five feet in height, and about half as much in its diameter, in which is a truncated columnar stalactite, eight feet in circumference.

“A narrow and difficult passage, twenty feet in length, leads from this cavern to another, five and twenty feet, which is every where beset with teeth, bones, and stalactitic projections. This cavern is suddenly contracted, so as to form a vestibule of six feet wide, ten long, and nine high, terminating in an opening close to the floor, only three feet wide and two high, through which it is necessary to writhè with the body on the ground. This leads into a small cave, eight feet high and wide, which is the passage into a grotto twenty-eight feet high, and about three and forty feet long and wide. Here the prodigious quantity of animal earth, the vast number of teeth, jaws, and other bones, and the heavy grouping of the stalactites, produced so dismal an appearance, as to lead M. Esper to speak of it as a perfect model for a temple for a god of the dead. Here hundreds of cart loads of bony remains might be removed, pockets might be filled with fossil teeth, and animal earth was found to reach to the utmost depth to which they dug. A piece of stalactite being here broken down, was found to contain pieces of bones within it, the remnants of which were left imbedded in the rock.

“From this principal cave is a very narrow passage, terminating in the last cave, which is about six feet in width, fifteen in height, and the same in length. In this cave were no animal remains, and the floor was the naked rock.

“Thus far only could these natural sepulchres be traced; but there is reason to suppose that these remains were disposed through a greater part of this rock.”

KINGDOM OF SAXONY.

CHAPTER I.

Name—Situation—Boundaries—Extent—Population—Original Inhabitants—Progressive Geography—Present Division, and Distribution of the Inhabitants—Outlines—General Surface—Mountains—Rivers—Canals—Lakes—Climate and Seasons—Soil—Culture—Products.

THIS kingdom is one of the fruits of the French Revolution, and dates its origin from 1806. It derived its NAME from the circle in which it is situated, and forms a part of northern Germany. It is bounded on the north and east by Prussia, on the south by Bavaria, and on the west by some of the smaller states. Its greatest extent is from east to west, in which direction it stretches through about three degrees and a half of longitude, or nearly 150 English miles. It occupies part of the 51st and 52d degrees of latitude, but is only about a degree and a half in breadth towards the western extremity, and less than half a degree at the eastern end. Its superficial contents are about 7226 English square miles, and its population, in 1818, was 1,232,077 ; which is an average of 170 persons to each square mile.

The Original Inhabitants of Saxony are, of course, included in the aggregate population of the north of Germany, as already stated in the General View of that part of the continent. Their ancient military renown, and their connexion with the early history of our own country, are familiar topics.

The House of *Saxe* is one of the most ancient and illustrious in Europe, and was divided into numerous branches, several of which becoming extinct, their possessions centered in the elector, who had, therefore, for a considerable period, ranked among the most powerful of the secondary states of Germany. The territories of the Elector of Saxony, which were situated in the upper circle of that name, were composed of the Duchy of Saxony, the Margraviate of Misnia, part of the Voigtland, part of Thuringia, Lusatia, and a part of the county of Henneberg. But, when the Elector entered into an alliance with Buonaparte, in 1806, the Electorate was changed into a kingdom, and greatly increased by the territories wrested from Prussia. Besides the additions contiguous to its former possessions, Prussian Poland, which was detached from that kingdom by the treaty of Tilsit, with part of Galicia and the circle of Zamosk, ceded by Austria, were formed into the *Grand Duchy* of Warsaw, and annexed to the kingdom of Saxony. It then became a powerful state, possessing an extensive territory, and a population of more than seven millions of inhabitants. These dominions consisted of two distinct parts ; but a military road crossed the Prussian territories which separated them, and formed a communication between the German and the Polish dominions. The king of Saxony from that time became the faithful ally of Buonaparte ; and

even when the dying embers of German patriotism began to rekindle, and the sacred flame to spread through Germany, he still refused to listen to the wishes of his subjects, and to join the other powers in throwing off the Gallic yoke. At the Congress of Vienna, therefore, he was stripped of more than half his dominions, though suffered to retain the regal title with which they were connected. The Grand Duchy of Warsaw was severed from Saxony, and placed under the protection of Russia, as the new kingdom of Poland; and those parts of the western dominions which had previously belonged to Prussia were restored; so that Saxony was reduced to the extent and population already stated.

Saxony is now divided into the following circles, to which their extent, population, and chief towns, are annexed.

<i>Circles.</i>	<i>Eng. sq. miles.</i>	<i>Population.</i>	<i>Chief Towns.</i>	<i>Inhabitants.</i>
Meissen	1,572	297,945	DRESDEN	60,000
Leipsic	1,161	216,350	Leipsic	36,093
Erzgeberge	2,193	459,264	Freyburg	9,000
Voigtland	688	88,639	Plaucn	7,000
Lusatia	1,612	169,879	Bautzen	10,000
	<hr/> 7,226	<hr/> 1,232,077		

The above statement shows that the inhabitants are more regularly distributed over the surface of the country than in many other kingdoms, yet each of the provinces are far from being equally populous. The mountainous and mining district of Erzgeberge has more than 200 inhabitants on each square mile; while Lusatia has little more than half that number. Meissen and Leipsic are both more populous than Voigtland. The inhabitants of this kingdom are thus distributed with respect to residence.

	<i>Inhabitants.</i>
In two large Cities, containing together	85,167
In six Cities between 5000 and 15,000 persons	51,319
In thirty-four Cities between 2500 and 5000	112,665
In ninety-three Towns between 1000 and 2500	130,418
In smaller Towns, farms, and villages	852,508
	<hr/> 1,232,077

From this statement it appears that nearly five-sevenths of the Saxon population are spread over the country in small detached bodies.

Part of the *OUTLINES* of this kingdom is formed by the grand chain of Mountains which separates it on the south from Bohemia. The remainder consists of mere arbitrary lines, and does not, therefore, admit of verbal description. The southern part of the kingdom is beautifully diversified with hill and dale, and on approaching the borders of Bohemia, it assumes a more Alpine character, and often presents scenes of great romantic beauty. Towards the north the surface is less varied. Rich vales, watered by copious rivers, and wide plains occasionally interrupted by gentle hills, form its general outline. The only *mountains* of Saxony are those of Erzgeberge, which form its southern boundary, and have already been described in the *GENERAL VIEW* of Germany. The highest of its summits are on the Saxon side of the range, and some of these rise to the height of nearly 4000 feet above the level of the sea. Several ramifications diverge from them, and are covered with forests, which supply abundance of timber for domestic purposes.

The Elbe intersects the country from south-east to north-west; the Spree flows through Lusatia, and the Mulda, the Pleisse, and the Elster, rise in the mountains on the southern borders, and flow across the western part into the Prussian

dominions ; and consequently have only the commencement of their courses in this kingdom. The Elbe is navigable to the southern confines of the country, but the others merely adorn and fertilize the vales through which they flow. In many of these vales the SOIL is rich and fruitful. That which is watered by the Elbe, (particularly between Dresden and Meissen,) has been compared to some parts of the north of Italy. The Climate is salubrious, and the summer temperature sufficient to mature the grape. The land is better cultivated than in most other parts of Germany ; and all kinds of grain and vegetables, with hops, hemp, flax, tobacco, saffron, and madder, are produced. But, when the late reductions took place in favour of Prussia, Saxony lost many of her agricultural districts, though the richest of her mines, and the most flourishing of her manufactures, were preserved. She now, therefore, grows comparatively little corn. Both the vegetable and mineral products of this kingdom are such as are common to the north of Germany. Much attention has been paid to the improvement of their sheep, and the Saxon wool is not only the best in Germany, but is well known in this country, into which much of it is imported.

Few countries of equal extent exceed Saxony in the riches of its MINERAL products. Silver, copper, tin, lead, iron, manganese, cobalt, coal, marble, stone, and porcelain clay, abound in many places. The Saxon topaz is unique : serpentine agates, with jet, jasper, and different coloured crystals are found in various parts. The silver mines are numerous and productive, and the annual value has been stated at £40,000. The copper, the lead, and the iron mines, are also very lucrative. But one of the most valuable of the Saxon minerals is the cobalt, which, converted into smalt, or blue pigment, is so essential to the porcelain, and some other of the finer, manufactures. The annual value of this mineral is supposed to equal that of the silver. Tin is another of the Saxon minerals, which is obtained of an excellent quality, and in greater abundance than in any other European country, except England.

According to the statement of M. *Merkel*, a recent German Statistical writer, the average annual produce of the Saxon mines is,

400,000 Ounces of Silver
500 Tons of Lead
450 Tons of Cobalt
125 Tons of Tin
30 Tons of Copper

5 Tons of Manganese
880 Tons of Sulphur
800 Tons of Vitriol
20,000 Tons of Coal
24,000 Tons of Iron ore, besides smaller articles.

CHAPTER II.

Principal Cities, Towns, and Buildings—Manufactures—Commerce.

DRESDEN is the capital of this kingdom, and the centre of literature and the arts in the north of Germany. It is pleasantly situated in a long oval valley on both banks of the Elbe, over which there is one of the handsomest bridges in Germany, uniting the two parts of the town. Ridges of gentle hills rise at a short distance both north and south, and are covered with plantations or formed into vineyards. They approach each other so as to exclude the view of the river above and below the city. The mountains of Bohemia are seen in the back ground; while art and nature seem to have conspired to render the situation of Dresden truly delightful. There is a great variety of public walks and gardens, laid out amidst beautiful scenery, and encompassed by a well-cultivated country. When seen at a distance, the expectation is raised by the appearance of its beautiful spires; and it is heightened on approaching the city, which in almost every direction is through avenues of trees.

The bridge, which immediately attracts attention, is a magnificent object, and the prospect from it delightful. The streets are spacious and clean, and many of the buildings are handsome. Among the principal of the public edifices are some of its churches, particularly the new catholic church, which was built about the middle of the last century, and is one of the most elegant ecclesiastical structures in Germany. The royal palace is a spacious but irregular edifice, evidently the work of different ages. It has a tower 355 feet high, and a number of singular apartments well stored with curious and valuable articles. The House of Assembly, where the Saxon Diet meets, is a handsome edifice. The Dutch and Japanese palace is a remarkable building. It is a large square structure, the stately domes of which, rising amidst groves and thickets, have an impressive effect. The high walls by which the city was surrounded were taken down, in 1810, and the materials employed in repairing the fortifications of Torgau.

Though Dresden has several times been taken and retaken in the wars of Germany, yet it is less distinguished by military renown than as the northern centre of the Fine Arts. The patronage long afforded by the electoral House of Saxony, and the valuable collection of the works of great masters which has been formed there, induce artists to resort to Dresden from most parts of Europe. A large building near the palace is set apart for this collection, which is one of the best in Europe. "It is," says Dr. Neale, "a complete mine of Art, and contains about 1200 pictures, the works of three hundred and thirty artists of every school." Dresden is also the centre of German literature as well as of the fine arts. The Japanese palace contains the Royal Library, which comprises 150,000 volumes. In this building also are some fine statues and a valuable collection of porcelain. There are several schools and charitable institutions in Dresden, with manufactures of mirrors, tapestry, jewellery, fine porcelain, earthenware, and platted straw. The situation of Dresden, and its easy communication with Hamburg, by means of the Elbe, render its commerce more than commensurate with the wants of its inhabitants, who amount to 60,000. The surrounding districts are principally supplied with colonial produce by the merchants of this city; while many of the products and manufactures of Saxony are exported through the same medium.

LEIPSIK, situated on the river Pleisse, near the north-west extremity of the Saxon dominions, is one of the most celebrated cities in Germany. It equally participates in literary, commercial, and military renown. It was anciently fortified, but its fortifications have been dismantled, and its ramparts converted into gardens, beyond which are the suburbs. Leipsic is still entered by four handsome gates, and contains several good churches and hospitals, with a spacious square. Its streets are not broad but they are kept clean, and the town altogether is represented as having a very grotesque appearance. A late traveller says, "*Goethe* describes the houses of this city well, when he called them 'extraordinary shining buildings, with a front to two streets, inclosing courts, and containing every class of citizens, within heaven-high buildings, which resemble large castles, and are equal to half a city.' Roofs which alone contain six stories of windows, with small steeples on their tops; circular houses diminishing at every story, resembling the pictures of the tower of Babel; two or three towers placed by the sides of houses, as if a staircase separate from the building had been provided for it; some fronts which had been modernized, and disfigured by a multitude of pillars and pilasters above pillars and pilasters; and the ancient gaol-like, but fantastical town-house, made the market-place of Leipsic, one of the most grotesque looking spots I ever saw." Among the public edifices of this city are the exchange, the cloth-hall, the church of St. Nicholas, the Catholic chapel, the theatre, and some of the hospitals. The University is one of the most celebrated in Germany, and usually contains from 900 to 1200 students. It is chiefly appropriated to the four following nations; the Saxon, the Misnian, the Franconian, and the Silesian. It is composed of six colleges, and the number of its regular professors is twenty-seven. Its present celebrity arises principally from its medical studies. There are several literary and scientific societies, with libraries, and collections of curiosities in Leipsic, which also carries on the largest book trade in Germany.

There are, also, manufactures of linen, silk, velvet, musical instruments, jewellery, and various other articles; which, added to its central situation, render it a kind of emporium of the north. Its three great fairs, which are held at the commencement of the year, at Easter, and at Michaelmas, are frequented by merchants from all parts of Europe. Immense quantities both of native and foreign manufactures and products are disposed of, or exchanged on these occasions, the whole annual amount of this trade having been stated at £3,000,000 exclusively of the book-trade. More than 50 booksellers are settled in Leipsic, and between two and three hundred assemble at the Easter fair, from other parts, bringing the books they have published during the year. The average number of works that are thus exposed to sale, is estimated at 5000, and the annual value of those sold or exchanged, exceeds £200,000.

Leipsic has been no less the theatre of military conflicts, than of literary and commercial transactions. It was more than once distinguished as the scene of action during the thirty years' war; and in 1813 it was made the general hospital of the French army. The events which took place in the October of that year, will never be effaced from the history of Europe. On the 18th of that month, the French and allied armies met about seven miles east of Leipsic, and one of the most memorable engagements recorded in authenticated history was the consequence. The number engaged on both sides was about 400,000 men. The French were driven from most of their positions; a retreat across the Rhine was necessary; confusion ensued; and Leipsic became an unexampled scene of anxiety and suffering, filled to excess with the wounded, the dying, and the dead. The number of its resident inhabitants in 1818 was 36,093.

FREYBURG is another of the well-known towns of Saxony. It is situated in the midst of a mining district, at a short distance from the base of the great

southern chain which separates Saxony from Bohemia. It is watered by the small river Mulda, and contains the most complete amalgamating establishment in Europe, with a population of about 9000 individuals. The mining academy of Freyburg has to boast of the names of Werner, Charpentier, Lampe, and others. The mine officers of Freyburg, have the superintendence of all the other establishments of this kind in the kingdom. The number of mines in the vicinity exceeds 200, which produce silver, copper, tin, lead, and iron, with other metals, and employ about 5000 men.

The capital of Upper Lusatia is BAUTZEN, situated on the Spree, and containing a population of about 10,000 persons, a great number of whom are employed in the manufacture of cloth, linen, leather, stockings, and paper. A strong castle, situated on a rock, overlooks the town. The house of assembly for the provincial diet, is at Bautzen. It is also the seat of the central post office, and other establishments belonging to the circle of Lusatia. One half of the parish church belongs to the Protestants, and the other to the Catholics; and there is a singular kind of collegiate establishment, called the Provostship of St. Peter, all the members of which are Catholics, except the head, who is a Lutheran. The language of the Wendens, or descendants of the ancient Vandals, is spoken in this town and its vicinity as much as the German.

MEISSEN is a neat little town, situated on the Elbe, and is the place where the celebrated *Dresden china* is made. The manufacture was removed from Dresden to that place about a century ago, as the best clay was found there. It is situated in one of the most fertile and beautiful vallies in Saxony, and has a population of about 4100 persons. An ancient castle stands on an elevated rock, and overlooks the town and the Elbe. The most remarkable buildings are, the old Gothic cathedral, the chapter-house, and the bridge over the Elbe, which has three different kinds of arches.

CHEMNITZ, is a fortified and manufacturing town, with a population of more than 9000 inhabitants. ZUICKAU is also a manufacturing and commercial town, on the river Pleisse, with a population of nearly 5000 inhabitants. LOBAU, situated near the eastern confines of Lusatia, has several linen manufactures, and about 2500 inhabitants. HERRNHUT, in Upper Lusatia, and about six miles south of Lobau, is the well-known metropolis of the Moravian brethren, and was built as their first regular settlement in 1722. It is a neat small town with a population of about 1500 inhabitants, most of whom are engaged in a variety of manufactures.

The MANUFACTURES of Saxony are not only more diversified, but more extensive, perhaps, than those of any country in Germany of the same extent. They embrace woollens, linens, silks, and cottons of a superior kind; with metallic articles, beautiful porcelain, glass, jewellery, tapestry, mirrors, stockings, hats, lace, earthenware, &c. for home consumption and the supply of surrounding districts.

Saxony is more favourably situated than many other parts of Germany, for carrying on an extensive commercial intercourse with the neighbouring states. The Elbe gives it a ready outlet to the ocean, and an inlet for foreign articles. The great fairs of Leipsic render it an *entrepôt* for the manufactures and produce of distant regions, as well as facilitate the disposal of its own. To these fairs Bohemia and Silesia send glass-ware and linen; Poland sends leather, wax, and wool; Russia supplies leather, skins, furs, hemp, and flax; Prussia, woollen and silk stuffs; Nuremberg, toys; Suabia, jewellery; Italy, silk; Austria and Hungary, leather, wine, and dye-stuff; Switzerland, woollen, silks, and linen; France, lace and millinery; and England, Holland, and Hamburg, supply colonial produce, printed cottons, and hardware. Nearly all the states of Germany, and several other countries, send books.

CHAPTER III.

Government—Constitution—Laws and Jurisprudence—Army and Revenue—Religion—Education—Language and Literature—Arts and Sciences—Manners and Customs—Antiquities and Curiosities.

THE GOVERNMENT of Saxony may be regarded as a limited monarchy, for the King is bound by the law not to change the established religion; neither can he levy new taxes, nor make new laws without the consent of the states. The different provinces or circles have different constitutions and privileges. The great distinction is into united provinces, and those not united. From the various classes of the united provinces, the general assembly of the states for the whole of the kingdom is chosen. This assembly is composed of three classes; the first consists of the great nobility and the clergy; the second of the small nobility, and the third of deputies from the cities. The king has the power of convoking this assembly at any time and place he pleases, and their meetings are usually held once in five or six years. The resolutions of this assembly, when sanctioned by the king, become laws, and when promulgated as such are binding upon all but the privileged class of the nobility. The different departments of the executive government are under the direction of appropriate ministers, as in most other countries.

There are two distinct codes of laws used in the jurisprudence of Saxony. The one consists of the various provincial statutes; and the other is the code of Augustus. Recourse is also had to the Roman and Canon law to explain the others when necessary. Various courts are established for the administration of justice, throughout the kingdom. The highest of these is the Court of Appeals, which in cases of property belonging to the crown decides on the rights of the sovereign himself. It consists of a president, a vice-president, six noble counsellors, and twelve commoners. There is a special court at Leipsic for privileged persons; one at Freyburg for all that relates to the mines, and one at Bautzen for Upper Lusatia. Each province has also a kind of local government, to which the police and inferior jurisdictions are committed.

The ARMY of this kingdom was considerable during its connexion with Buonaparte, and under the great extent of territory which he conferred; but Saxony has now sunk to one of the smaller states of Germany, and its military force does not exceed 15,000 men. Its REVENUE arises from several sources, as royal domains, regalia, including mines, forests, tolls, the post, and some others. The remainder is made up from taxes, the principal of which is a land-tax. The whole amount is supposed to be nearly one million sterling. The public Debt is about £6,000,000.

The prevailing RELIGION in this kingdom is the Lutheran, but the Royal Family and a few of the inhabitants are Catholics. The affairs of the church are under the management of consistories, composed of both laymen and ecclesiastics, as in most of the other Lutheran countries in the north of Germany. The chief consistorium has the management of Education, which has long been a subject of great attention in the Saxon dominions. Schools are established in almost all the towns and parishes. The university of Leipsic has already been mentioned; and there are royal schools at Meissen, Wurzen, and Grimma, with lyceums at other places.

The LANGUAGE of Saxony is esteemed one of the purest of the German dialects.

Many of the most eminent writers have either been natives of Saxony, or have resided in the country, and have made laudable efforts for improving its language. LITERATURE has long been fostered by the reigning family, and many of the best German authors have flourished in Saxony. The ARTS and SCIENCES have also participated in the same benign influence. There are several Saxon artists of eminence; and the country that produced Leibnitz and Wolf, must rank high in the annals of Philosophy.

As a similarity of MANNERS and CUSTOMS prevades the whole of northern Germany, the Saxons have a great resemblance to the other nations; but they are a more lively and animated race than their neighbours. The men are robust and frequently well made, and the women are often handsome, with fair complexions, blue eyes, and a sprightliness of expression in their countenances, which is not very common with German females. Their likeness to the English is much greater than in most other parts of the continent. A late traveller has observed,

“The aspect of a Saxon village awakens strange feelings in the breast of a British traveller. The churches, with their square bell towers and Saxon horse-shoe arches; the zigzag ornaments and billets encircling the porches; the very tomb-stones around the church-yards, with the mouldering graves shaded by ample yew trees; the neatness of the houses, and the decent cleanliness of the inhabitants, the very expression of integrity in their looks, all proclaim a common origin, and recal the recollections of our Anglo-Saxon ancestors, that race of freemen to whom England is indebted for the first germs of the religious spirit, freedom of thought, and honest industry, which characterize her present inhabitants beyond all surrounding nations.”—*Dr. Neale's Travels.*

Besides the general inhabitants of Saxony, there is another class of people, the descendants of the ancient church called *Unitas Fratrum*, who, after the death of John Huss, were spread over Bohemia, Moravia, and Poland, but who were early settled, as a regular body, in Upper Lusatia. As these now constitute a *distinct* branch of society, both in this and various other countries of the globe, a brief account of their economy, manners, and customs, will not be misplaced under the head of the country where they received their first existence as a separate body.—These are the *Moravians*, or *United Brethren*.

In the early part of the 17th century, when the flame of persecution raged in Moravia, some of these people, to escape from its fury, fled into Lusatia, and took refuge upon an estate belonging to Count Zinzendorf, by whom they were well received, and allowed a piece of land on the side of the hill called Hutberg, or watch-hill, about six miles south of Lobau. This ground they cleared and made the site of a village, which they called *Herrnhut*, or the Watch of the Lord. Enjoying, in this peaceful retreat, the free exercise of their civil and religious privileges, their number was soon augmented by new settlers, and the buildings proportionally increased, till Herrnhut has now become a large and populous village, containing about 1500 inhabitants, and may, with propriety, be considered as the metropolis of the community. Such was the origin of the present society of Moravian Brethren, who have rendered themselves equally conspicuous by their peaceful industry, their primitive simplicity, and their persevering ardour in the instruction of the heathen, which neither the heat of the torrid, nor the cold of the frigid zone, has been able to check. The Negro, the Hottentot, the North American Indian, the Greenland, and the Esquimau, can all bear testimony to the faith and patience—the zeal and kindness—the perseverance and prudence, with which these primitive missionaries of the Protestant faith have laboured for the temporal and eternal welfare of those whom they have visited. And it is worthy of remark, that a careful survey of their several missionary stations can scarcely fail to impress the mind with the pleasing

idea, that the plastic power of their persevering industry is sufficient, not only to overcome almost every obstacle that Nature presents, but even to convert the barren wilderness itself into the abode of neatness, comfort, and peace.

The religious principles of this community are strictly those developed in the celebrated memorial denominated the *Confession of Augsburg* ; and the present body of the United Brethren are as liberal in their sentiments towards those who differ from them in religious belief, as they are attentive to the practical duties involved in their own profession. Their internal economy is founded upon a regular and uniform plan. They are seldom found spread over the countries they inhabit ; but collected into distinct communities, where they have regular ministers, and other officers appointed for the management of all that relates to the welfare of the general body. Here the different classes of their Society live apart from each other, each subject to its own regulations. The bachelors and widowers, the single women, and the widows, for instance, have separate houses. Each is under the management of a superior and warden of their own sex, whose business it is to maintain good order, attend to the external welfare of the house and its inhabitants, and, by their advice and activity, to prevent, as far as possible, every evil arising from both external and internal sources. No one lives in these houses by compulsion ; it being a principle with them that every act should be voluntary. Each inmate also pays a moderate sum for board and lodging. The general external concerns of the settlement are under the management of a committee of overseers, chosen by the congregation. They observe a strict regard to attendance on religious worship, and, besides the general services in which all unite, they have others peculiar to each class, and at which that class alone attends. At these meetings, its peculiar duties are more particularly the subject of discourse. In their public services the men and women always occupy the opposite sides of the chapel. Music and singing form a conspicuous part of their worship.

This community is also particularly attentive to the maintenance of the poor, for which purpose several institutions are established in their congregations, the contributions towards the support of which, as well as to that of the missionary and other charitable purposes, and even to the support of the establishment at large, are purely voluntary. Plainness and simplicity are maintained in their dress and manners, not from a superstitious attachment to ancient customs and usages, but with a view to exclude, as far as possible, all vanity and unnecessary expense. Each follows his own particular trade or business, which is in general some mechanical employment, best suited to their congregated mode of life. Every one also receives the reward of his own labour, there being no community of goods among them, as has often been falsely asserted. The females usually employ themselves in needle-work, for the ornamental parts of which the Moravians have long maintained a justly-acquired celebrity. The members of this community are also noted for instructing youth of both sexes ; not merely those belonging to their own Society, but others who are intrusted to their care.

Many of the regulations and customs that were originally judged requisite for preserving the community from injurious innovations, having, by time and a change of circumstances, been rendered either useless or absurd, have lately been repealed by the Synod. Some of these respected marriage ; to which the consent of the Elders of the establishment where the parties reside is yet necessary before this state can be entered into, consistently with the rules of the society. When this is obtained, the circumstance is made known to the congregation, and the parties recommended to their prayers at the next meeting, but the ceremony itself is conducted according to the forms of the countries where the establishments are situated, as they do not hold any particular forms to be essential on this subject.

The Moravians commit the bodies of their deceased friends to the tomb with great solemnity ; not from any idea of service they render to the dead, but for the sake of the impression such scenes are calculated to make on the minds of the living. The graves in their burying-grounds are all arranged in regular rows, and the different classes, with respect to both sex and age, are buried separately, each having its particular row. The graves are simply covered with a flat stone, bearing the name and age of the person entombed beneath. In their settlements, they do not wear mourning ; but such as live detached from these regular establishments usually comply, in this particular, with the custom of the places where they reside.

The ANTIQUITIES of this kingdom do not present any thing remarkable ; and the NATURAL CURIOSITIES are chiefly such as are common to the other mountainous regions of Germany. One of the most singular is a peculiar species of stone found in the neighbourhood of Chemnitz, and particularly near Hillersdorf, and called the *starry-stone* of Chemnitz. Specimens have also been found near Belgrade. The colour of the ground of these stones is generally a dark brown, sometimes approaching to a brick red. Their surface is covered with spots of various sizes, in which are stars, varying in the number of their rays from four to eight. Thus, a curious mottled surface is formed which can neither be described in words nor well copied by art. For a more particular description of these curious stones, the reader is referred to that interesting and valuable work, *Parkinson's Organic Remains of a former World*.

KINGDOM OF HANOVER.

CHAPTER I.

Name—Situation—Boundaries—Extent—Population—Original Inhabitants—Progressive Geography—Present Division and Distribution of the Inhabitants—Outlines—General Surface—Mountains—Rivers—Lakes—Climate and Seasons—Soil—Culture—Products.

THE NAME of this kingdom is derived from the capital, and is the only monarchy in Europe, which has such a derivation. It was at first given to the electorate of Brunswick Lunenburg, when Ernest Augustus, the father of George I., was raised to the dignity of an elector of the German empire, and is now applied both to the long-possessed and the newly-acquired dominions. These occupy the north-west part of Germany, and form the fifth state in the Germanic confederacy. This kingdom, which was created by the Congress in 1815, is of a rectangular shape, and is bounded by the Elbe on the north-east, the German ocean on the north-west, Dutch Friesland and Prussian Westphalia on the south-west, and the kingdom of Saxony on the south-east. It stretches from $51^{\circ} 18'$ to $53^{\circ} 54'$ north latitude, and from about $6^{\circ} 50'$ to $11^{\circ} 50'$ east longitude. These limits, however, embrace the grand Duchy of Oldenburg, part of the Duchy of Brunswick, and the city of Bremen, which are all independent of the kingdom of Hanover.

Hanover is about 150 English miles from south-east to north-west, and 100 from north-east to south-west, and comprises a surface of 14,000 square miles, with a population of nearly 1,303,000; which gives about ninety inhabitants to each square mile.

THE ORIGINAL INHABITANTS of this kingdom are supposed to have been the descendants of the *East Faliens*, another branch of whom gave name to Westphalia. Like many others, it has risen from a small state by successive acquisitions of territory. The original possession was the Duchy of Brunswick, to which Lunenburg was afterwards added, and its possessors then took the title of Dukes of Brunswick Lunenburg. The district of Hoya was subjoined, in 1543, and that of Diepholtz, in 1585. The principality of Hildersheim was acquired partly in the 16th century, and partly in 1815. Osnaburg, was annexed in 1648; Verden, in 1715, and the Duchy of Bremen, in 1719. Bentheim, was obtained, in 1753; East Friesland, Lingen, the Lordship of Meppen, and part of the Lordship of Rheina, were all added to the former territory, in 1815.

Hanover ceded to Prussia a small district north of the Elbe; and to the grand Duchy of Oldenburg, another small tract on the western frontier. The Dukedom of Brunswick Lunenburg was raised to the electorate of Hanover, in 1692; and to the kingdom of the same name, by the Congress of Vienna, in 1815. It is now

composed of eleven provinces, each of which, at no very distant period of its history, had an independent existence. The following list contains the extent and population, as given in *Ein Beschreibung des Königreichs Hanover. Von K. D. Sonne, 1817* ; to which the chief town of each, and its population, are annexed.

Provinces.	Eng. Sq. miles.	Population.	Chief Towns.	Inhabitant.
1. Archbishopric of Bremen, Dukedom of Verden, and Land Hadeln.....	2669	.... 191,160	.... Verden.....	3,500
2. Dukedom of Luneburg	4261	.... 245,967	.... Lunéburg.....	10,000
3. Counties of Hoya and Diepholtz	1424	.... 105,120	.... Hoya	1,700
4. Principality of Kalenburg, and County of Spiegelberg	1046	.... 138,306	.... HANOVER.....	25,000
5. Bishopric of Hildesheim.....	685	.... 128,938	.... Hildesheim	11,000
6. Principalities of Gottingen & Grubenhagen	1171	.... 178,929	.... Gottingen	9,000
7. Bishopric of Osnaburg	925	.... 126,037	.... Osnaburg	7,000
8. County of Lingen	132	.... 20,143	.... Lingen	2,000
9. Circle of Meppen and Emsbühren	766	.... 29,541	.... Meppen	1,600
10. County of Bentheim	360	.... 24,364	.... Bentheim	11,000
11. Principality of East Friesland	1117	.... 125,610	.... Emdeu.....	12,000

These provinces have been subdivided into 107 bailiwics, which it would be inconsistent with the nature of the present work to enumerate. Some of them contain four times as many inhabitants in the same space as in others. The fertile bishopric of Hildesheim has nearly 190 persons to each square mile, while the sandy Dukedom of Lunéburg has less than 60, and the still more desolate Meppen has only 39. That of Verden, has little more than 40 individuals in the same space. The principality of Gottingen has a population of 145 persons to a square mile ; that of Kalenburg 124 ; Lingen 122 ; and the Duchy of Bremen 78. The other provinces vary between these two extremes.

The *Outlines* of this kingdom do not present any thing remarkable, the boundaries being arbitrary lines, except on the north-east and north-west, where they are formed by the Elbe and the ocean. The shores of these are flat and altogether uninteresting. The northern part consists of an extended plain, diversified with gentle undulations, but containing nothing that deserves the name of a mountain. In the south it includes the greater part of the elevated district, denominated the Hartz. This mountainous tract extends from the territories of Goslar, in the kingdom of Hanover, to Hartzgerode, in the principality of Anhalt, and occupies an extent of about 70 miles in length and 20 in breadth.

This region constitutes a part of the ancient *Sylva Hercynia*, and is still covered with extensive forests. The highest point of the range is the Brochen, or, as it is frequently called, the Blocks-berg, which rises to the height of 3500 feet above the level of the sea. The whole of the Hartz mountains is a most rugged and secluded tract, containing about 1400 square miles, and a population of 50,000 people, or about 36 persons to each square mile ; most of whom are engaged in the mines and other works connected with the production of metals.

Hanover is watered by several rivers. The Elbe, which washes its northern borders, and the Weser that flows through the heart of the country, have already been described. Besides these, the Ilmenau and the Oste, fall into the Elbe ; the Ocker, the Leine, and the Hunta, join the Weser, and the Ems empties itself into the sea.

The ILMENAU rises in the southern parts of the Duchy of Lunéburg, which it intersects in flowing towards the north-west, till it passes the capital, and joins the Elbe, about 12 miles above Hamburg. The OSTE originates in the south-east of the Duchy of Bremen, and runs nearly parallel to the Elbe, till it falls into the estuary of that river near Cuxhaven. The OCKER springs from Blocksberg, the

highest part of the Hartz, and flows north to Brunswick, after which it bends to the north-west, and is joined by several other streams on both banks. It then receives the name of the Aller, and unites with the Leine. Their combined waters join the Weser, in the eastern part of the Duchy of Bremen. The LEINE issues from a chain of mountains south-west of Hartz, and is augmented by supplies from the south of that range, directs its course towards the north, and afterwards receives the Innerste, which flows from the west of the Hartz. It then bends to the north-west, flows through the city of Hanover, passes Newstadt, and joins the Aller about 15 miles before it reaches the Weser. The HUNTA originates in the southern part of Osnaburg, and proceeds north to Diepholtz. It afterwards winds towards the west, and having nearly encompassed Oldenburg, it changes its direction to the north-east, and falls into the Weser below Bremen.

The Ems rises in the 52d degree of north latitude and the ninth of east longitude. It flows towards the north-west till it passes Rheine, Lingen, Meppen, and Bassen; and having received the Hase and the Ledda, from the east, it afterwards falls into the German ocean below Emden.

The only CANAL in the old dominions of Hanover, with the exception of a few which have been cut to convey water to some of the towns, is in the province of Bremen. It was intended to unite the Elbe and the Weser, by means of the two small rivers, the Schwinge and the Hamme; and also the Oste with the Hamme. It was begun in 1766, but is not yet completed, though obviously a beneficial undertaking. The cause of this failure, a recent traveller says, is its "having been the work of the sovereign instead of the subjects." In the newly-acquired province of East Friesland, which has more resemblance to a Dutch than to a German province, Canals are common, and are of the greatest utility both to the agriculture and commerce of the district.

LAKES occupy but a small portion of the Hanoverian dominions. The two principal ones, are *Steinhude* and *Dummer*; the former is situated about 15 miles north-west of the capital, and the latter a little south of Deipholtz; but neither of them presents any thing remarkable.

The situation, and other local circumstances of this kingdom, cause its CLIMATE to resemble that of England. But in the elevated regions of the south, the cold is severe, and the climate ill-adapted to the productions of the harvest. Few places are therefore cultivated. In the vallies, both the soil and the climate are more favourable, and the usual products arrive at maturity. The temperature near the coast is very changeable; and in some of the marshy districts the atmosphere is humid, but where the ground is dry and sandy, the temperature is more steady and the air salubrious.

The SOIL of Hanover varies greatly in different parts of the kingdom. In many places of the southern districts, and near the banks of the principal rivers, it is rich and fertile. Much has been reclaimed from a marshy state, and many circumstances, common to almost all these tracts, afford strong proofs of an alluvial origin. There are extensive plains in the northern parts of the kingdom, which are merely barren heaths and moors, affording a scanty subsistence for a few bad sheep, and supplying food for immense swarms of bees. The value of the honey produced, annually, is estimated at £40,000.

AGRICULTURE is still in a backward state in almost every district of Hanover; and the feudal tenures, under which great part of the lands yet remain, have hitherto been an insuperable bar to all liberal improvement. Vast heaths and marshes are allowed to continue unproductive, though capable of being rendered fruitful. A late traveller has remarked, that the only signs of improvement he saw in the provinces of Lüneburg or Bremen were the erection of a new sheep

hut, and the enclosure of a few acres of land. Yet, notwithstanding this, much attention was paid to the improvement both of agriculture and commerce by his late Britannic majesty, as elector of Hanover.

The principal vegetable productions are wheat, rye, barley, oats, peas, potatoes, flax, hemp, tobacco, madder, fruits, and all kinds of vegetables. Vast quantities of these are grown in East Friesland, the Duchy of Bremen, and other moist places for the supply of the surrounding districts. Wood, which is also abundant in many parts, is used for fuel, as well as for architectural purposes, and much is consumed in making pitch and tar. Hanover, however, exports wheat, rye, and other agricultural products; but this is to be ascribed more to the very poor manner in which most of the inhabitants live, than to the effective state of their Agriculture; except in the province of East Friesland, which exhibits many instances of enterprise and success, well deserving of imitation in all similar districts.

Horses, cattle, and sheep, are numerous in many parts of the kingdom; game and fish are likewise plentiful. The horses and cattle are generally good, having been improved by crossing with those of Holstein and England; but the wool of the sheep is still of an inferior quality.

The wild animals are such as are common to most parts of northern Germany. The wild boar is the most noted.

The southern parts of the Hanoverian dominions yield a very scanty supply of vegetable produce except woad. MINERALS abound. The silver mines in the mountains of Hartz were discovered as early as the 10th century, and are supposed to be the first that were opened in Europe. Besides the silver, iron, copper, and lead, are wrought there to a great extent; with zinc, cobalt, sulphur, green, blue, and white vitriol. All these are usually found in veins, imbedded in a species of hard clay slate. The iron mines of this district are the most productive; and the annual tenth paid to the Sovereign amounts to nearly £115,000. The workmen are divided into companies and wear a kind of uniform. The silver is coined in the towns situated in the immediate vicinity of the mines, but the other metals are generally transported to a greater distance. Besides the mineral treasures of the Hartz, marble, coal, slate, and limestone, are found in other parts, the last of which is plentiful near Lunéburg. The MINERAL WATERS at Rehburg have obtained great reputation from having been found beneficial in various complaints.

CHAPTER II.

Principal Cities, Towns, and Buildings—Manufactures—Fisheries—Commerce and Shipping.

THE capital of this kingdom is HANOVER, situated in a sandy district on the navigable river Leine. Being surrounded by picturesque scenery, the distant view of the city is singular, and even romantic ; but the interior disappoints the expectation thus raised. The river divides it into two parts, called the old and new towns ; which were formerly surrounded with walls and ditches. But these have long been demolished, and the ground converted into streets and laid out in a handsome esplanade, adorned with an elegant monument to the memory of Liebnitz, who was a native of Hanover. Part of the Leine has also been transformed into a serpentine canal, to fill the old ditches, and is a great ornament to the town.

The old town is chiefly composed of houses built of brick, with wooden frame work, and many of them are constructed of wood, painted various colours. The houses of the new town, which stands on the right bank of the river, are in general of a superior structure. Greater improvements have lately been made in Hanover, in this respect, than in most other German towns. The new street facing the rampart, is built in a uniform and handsome manner, and the inhabitants, which in 1811 were 21,000, have now increased to more than 25,000.

Several of the public buildings and institutions of Hanover deserve the attention of the stranger. The electoral palace is a large modern edifice, now converting into an elegant residence for the viceroy. The public library, founded by Liebnitz, contains the archives of the kingdom, and a valuable collection of books. Some of the Lutheran churches, and the chapels belonging to different persuasions, are handsome structures. Among the charitable institutions are an orphan-house and two hospitals, with others designed for the purposes of education ; besides the *Georgianum*, erected in 1796 for forty sons of Hanoverian nobles. They are admitted into the institution at ten years of age, and have the expenses of their education defrayed by the establishment, except a small sum paid at their admittance.

Herrenhausen is a royal residence, situated at a short distance from the city, with an excellent botanical garden, said to be surpassed only by that at Schoenbrunn, in the neighbourhood of Vienna.

This city is principally supported by being the capital of the kingdom and the seat of government. Manufactures, however, are not altogether unknown, and several articles of necessities, as well of ornament and luxury, are made upon a small scale. The navigation of the Leine also affords the means of carrying on a commercial intercourse, particularly in corn, wool, timber, and the metallic productions of the country.

George I. was buried at Hanover, in 1727 ; Dr. Herschell was born there, in 1738 ; and Zimmerman died there, in 1795. It was also the birth place of the dramatic writer *Ifland*, who died in 1815, and of the two *Schlegles*, so well known by their literary labours.

GOTTINGEN, the second town in the kingdom of Hanover, stands in a pleasant valley in the southern part of these territories. It is an ancient town, and was formerly encompassed with walls and fortifications ; but they are now demolished,

and the space laid out in public walks. Gottingen was once included in the list of Hans towns; but its principal importance now arises from its university, which is ranked among the first institutions of the kind in Germany. It was founded by *George II.*, in 1734, and is indebted to the liberal plan on which it was established for the celebrity it has obtained beyond many other institutions of the same kind.

The four grand divisions of human knowledge, divinity, philosophy, law, and medicine, are embraced in its comprehensive system of instruction. The number of Professors is not fixed, but in 1818, it contained the following list, viz.

Theology.....	3
Mathematics, logic, and metaphysics.....	2
Astronomy, experimental philosophy, and mineralogy.....	4
Medicine, surgery, chemistry, and botany.....	7
Law, viz. Roman, German, and ecclesiastical.....	7
Classics and oriental languages.....	5
History, ancient and modern, with statistics and the history of literature..	4
Modern languages and literature.....	3

Besides these, which are the regular and daily lecturers, there are seven other Professors who give lectures occasionally.

In addition to professorships, there is a pastoral Institute and a class for the study of political Economy, in which the Professors have lately been very eminent. An Academy of Sciences was established, in 1751, in connexion with the university. It was remodelled, in 1770, and now consists of three principal classes, Mathematical, Physical, and Historical; to which the world is indebted for several valuable inventions and discoveries. Many eminent writers have been included among the professors of the university and the members of the academy. The number of students at Gottingen is usually greater than in any other of the German universities, but this has lately been reduced, in consequence of the serious disturbances that took place between them and the inhabitants of the town, in the autumn of 1818. In that year they amounted to 1158.

One of the great attractions of Gottingen is the university Library, founded by *George II.*, which in modern and useful books does not yield to any of the other great Libraries of Europe; and has lately been augmented by the best works published during the long suspended intercourse, from 1803 to 1814. Gottingen contains four Lutheran and two Calvinistic churches; and has some manufactures of linen and woollen cloth. The population amounts to about 8500, besides the military and students.

EMDEN is a large town situated at the mouth of the Ems, and the principal sea-port included in the Hanoverian dominions. The town is fortified, and the harbour spacious and secure, with a depth of fifteen feet at high water, and good anchorage for the largest ships of war about a mile from the town. Emden, with the rest of East Friesland, was long in the possession of Prussia. It has a population of about 12,000 individuals, and a considerable trade, chiefly in the export of oats, barley, butter, cheese, vegetables, and other products of the country. Its imports are manufactured goods and various articles for the supply of the interior. A canal, which connects it with Aurich, about twelve miles to the south-west, increases the trade. Emden is likewise engaged in ship-building and the fisheries, particularly in that for herrings. The town-house, the library, and the cathedral, are among its principal public buildings.

LUNEBURG is the capital of that province which gave title to the Dukes and Electors of Hanover, and is situated on the Ilmanau, about thirty miles south-east of Hamburg. It is an old fortified city, containing several handsome parish churches, and some other public buildings worthy of notice; among which is the

salt magazine. Great quantities of salt are produced from the springs in the neighbourhood. Luneburg has also a trade in lime, wax, honey, linen, wool, and flax. The population is about 10,000.

HILDESHEIM is an irregular city, seated on a declivity near the river Innerste, and was once fortified, but like many other towns in the kingdom, its works have been removed, and the space converted into public walks. The cathedral is a large Gothic building, and contains a curious monument of the ancient Saxons, supposed to be the identical column which supported the image of *Arminius* or *Herman*, a celebrated warrior, who cut off the Roman legions under Quintilius Varrus, for which he was deified by his countrymen. Several monasteries and collegiate chapters formerly belonged to this town, but have now been secularized. The episcopal residence, the commercial house, and the mint, are the principal public buildings. The chief employment of the inhabitants, who amount to about 11,000, is brewing and manufacturing linen and yarn.

OSNABURG, or OSNABRUK, is the capital of the province and bishopric of the same name. It is situated in a pleasant valley on the banks of the river Haze, and was anciently numbered among the Hans towns. It is celebrated for the treaty of peace concluded there between Germany and Sweden, in 1648, in favour of the protestant religion, and by which it was determined that the future bishops of Osnaburg should be protestants and catholics alternately. The protestant bishop is also to be a prince of the house of Brunswick, but the administration of the ecclesiastical affairs is vested in the archbishop of Cologne, as metropolitan. The present bishop is Frederick Duke of York. The number of inhabitants is about 9000, and the principal source of industry is the manufacture of yarn, thread, and linen.

ZELL is another of the largest towns in the Hanoverian kingdom, and the capital of the Duchy of that name. It is situated on the river Aller, where it is joined by the Fuse. The castle was the ancient residence of the Dukes of Zell, and was repaired by his late majesty for his unfortunate sister the Queen of Denmark, who died there in 1775. The population is about 8000, and the town has some manufactures of snuff, hats, wax, linen, and other articles.

The high court of appeal for all the territories belonging to the house of Brunswick in Germany, is held at Zell, which gives it a pre-eminence among the towns of the kingdom.

CLAUSTHALL is an extensive open town, situated in the Upper Hartz, and the principal place in that part of this mountainous chain which belongs to Hanover. The mint, for coining the silver produced by the mines, is situated here, and the sum annually coined is about £100,000. The other public buildings are a mine office, two churches, a public school, and an orphan-house. The inhabitants are about 8000, and are almost all miners. Many of them belong to the silver mines of Carolina and Dorothea, which are in the neighbourhood.

GOSLAR is a large old mining town, situated near the river Ocker, and at the bottom of the mountain of Ramelsberg. Its streets are narrow and crowded, and some ancient buildings and relics of Saxon paganism are shown there as curiosities. The population amounts to about 5700. They are chiefly Lutherans, and are employed in mining and brewing. This was one of the accessions gained by Hanover, in 1815, and is the place where gunpowder is supposed to have been invented by a monk, named Berthold Schwartz.

HAMELN is a town and fortress in the south-west of Hanover, and in the environs of Kalenburg. It is situated at the confluence of the Weser and the Hamel. The town is well fortified, and has a population of about 5000 persons. A large sluice was erected here by George II. for the benefit of navigation. This

town is a place of importance as a thoroughfare to the other parts of Germany, as well as commanding the navigation of the Weser. It carries on both manufactures and commerce, and the inhabitants are considered wealthy. The churches and public buildings are large for so small a town.

EMBECK possesses a population of about 5000 inhabitants; but bears evident marks of decay. It once belonged to the Hanseatic league, and has yet some manufactures, though they are in a languishing state. *Munden*, *Osterode*, and perhaps some other places contain more than 4000 inhabitants each, but do not present any thing remarkable.

The MANUFACTURES of Hanover are neither numerous nor important; being confined to a few articles, and on a small scale. As the country produces good flax, its conversion into linen, yarn, and thread, is the staple manufacture, and gives employment to a number of the inhabitants; or rather a partial employment to many of the *bauers*, or peasants, during the intervals of field labour. Great quantities of thread are supplied by Osnaburg for the manufacture of damasks, but they are inferior to those made in Prussia and Friesland. Coarse woollens, leather, paper, glass, cottons, hats, and a few other articles are made in various places. The manufacture of cottons appears to be increasing, and some attempts have been made to introduce regular establishments of this kind, which have been attended with great success in several of the Prussian states.

Making of gold and silver lace, with the printing of linen and cotton, and the preparation of chicory, for coffee, employ a number of people in the capital; and the silver fabrics of Zell have long been in great repute in most parts of Germany. The extraction of iron, copper, zinc, and other metals from the ores, and the preparation of them for exportation, are sources of industry, both in the mountainous districts and several of the adjacent towns. The cutting of timber and sawing it into planks likewise give additional employment in those districts where forests abound. The fisheries pursued by the Hanoverian states are of little moment, as only a few small vessels, chiefly belonging to Emden, are engaged in the herring fishery.

Hanover is favoured by circumstances for the prosecution of COMMERCE. Its situation gives it the advantages arising from the navigation of the Elbe, the Weser, the Ems, the Leine, the Aller, and nearly twenty other rivers which fall into the first three of these, some of which afford access to the very heart of the country. Emden is the most commercial place in the kingdom, though Hanover and several of the inland towns are not altogether destitute of commerce. They are engaged in transmitting natural products and foreign articles from one place of the interior to another. The small town of Munden, situated at the conflux of the rivers Werra and Fulda, enters into mercantile transactions with the interior of Germany. Hanover has four, and Osnaburg two, annual fairs, at which are sold a great variety of goods, that have been previously purchased at the fairs of Brunswick, Leipsic, and Frankfort. They consist chiefly of linens, cottons, thread, ribbands, lace, toys, and other light articles, as well as several of more immediate utility.

The chief exports are horses, cattle, grain, iron, copper, and other metallic products, with planks, linen, and turf. The last, though a singular article, is of importance in some districts. The principal imports are English manufactures and colonial produce; fine linens from Prussia and Holland; with broad cloth, silk, and jewellery from France.

Very little shipping belong to Hanover. Emden is the chief place engaged in foreign trade; and it has been estimated that Pappenburg and East Friesland together possess about 500 small vessels.

CHAPTER III.

Government and Constitution—Law and Jurisprudence—Army—Navy—Revenue—Political Importance and Relations—Religion and Ecclesiastical Geography—Education—Language and Literature—Arts and Sciences—Manners and Customs—Antiquities and Curiosities.

THOUGH Great Britain and Hanover have long been governed by the same individual, as king in one country and elector in the other, their governments have always been distinct. The monarchical honour was conferred on Hanover, in 1815, with the 5th place in the German confederacy, and four votes in the general assembly of that country. The crown is hereditary, and the succession restricted to the male line. The constitution limits the power of the monarch by uniting it with that of the States, comprising the heads of the nobility, the principal ecclesiastics, and deputies from several of the towns. No law can be made, nor any tax levied without the consent of the states. As Hanover has long been governed by a regency, the power of the aristocracy is great; but the appointment of a viceroy (the Duke of Cambridge) and the avowed desire of the reigning prince to give greater weight to the other classes, now form a beneficial counterpoise to this influence.

The Hanoverian laws are of the most complicated kind, and the system of Jurisprudence is tedious and perplexing. The Roman law, the institutes of the late German empire, and the particular usages of the different provinces, all form precedents for the guidance of the judges. Capital punishments are happily rare, the penal inflictions being chiefly fines, imprisonment, and hard labour. Transportation is seldom resorted to. The high court of appeal, which is at Zell, has always maintained a distinguished reputation for the firmness and equity of its decisions, which have been frequently given against the government.

The only order of knighthood in the kingdom of Hanover is the Guelphic, instituted by his present Majesty, in 1815. It consists of three classes, grand crosses, commanders, and knights; and persons both civil and military are admitted into it. The contingent to be supplied to the German ARMY by the kingdom of Hanover is about 13,000 men, with half that number of reserve in time of war. The whole army may, therefore, be stated at 20,000. It is wholly composed of Hanoverians, no British subject being allowed to enter the service. Every soldier, after having served twenty years, can demand his discharge and a pension; but he is afterwards liable to military duty in the garrison towns.

The REVENUE of this kingdom is nearly a million sterling; and consists of two distinct parts, one of which is derived from the domain lands belonging to the crown, and the other from the regular taxes imposed by the states. In former times the whole expenses of the government were defrayed by the produce of the royal domains, which seem to have been originally assigned to the crown for that purpose; and an application for additional supplies was made to the people only on emergencies. The grants from the taxes were therefore merely occasional and temporary; but these have now become a permanent part of the Revenue, and make about one half of its amount. That which arises from the domain lands is wholly at the disposal of the sovereign; the other is under the management of a committee of the states. Among the principal sources of the

public Income are the following taxes ; viz.—Land-tax, a licence, or tax on brewing and distilling, on malt, on imports, and income, with a poll-tax, and stamp duties. A great part of this Revenue is required for the support of the army, the remainder is spent in supporting the university of Gottingen, the public schools and other establishments designed to promote the public good ; and in paying the interest of the national debt, which amounts to about three millions and a half, and bears interest at four per cent.

In reference to **POLITICAL IMPORTANCE** and **RELATIONS**, the remarks we have already made respecting the kingdom of Bavaria, are equally applicable to *Hanover* and other similar states. *It will therefore be sufficient to observe, that they are obviously too feeble to be of much weight in the political scale of Europe, and must consequently be, in a great measure, dependent upon the stronger powers for protection.* They, however, are parts of the general political system—members of the great confederacy—and are not only interested in obeying, but under the protection of, those general laws, which are equally binding upon every member of the political family.—It is among the states of Europe alone that such an assemblage of great and small—of weak and powerful exists.—It is there alone that the true basis of national right seems to be thoroughly understood ; and where the laws are equally honoured in binding the strong and protecting the weak.

Lutheranism is the **RELIGION** of the kingdom of Hanover, but complete toleration is allowed to all other sects. Catholics are most numerous in the principalities of Hildesheim and Osnaburg, and the whole number in the kingdom is estimated at 150,000. The Calvinists amount to about 40,000, besides which there are eight or nine thousand Jews, who are either money-lenders, or engaged in commercial transactions.

Part of the ecclesiastical property that belonged to the religious establishments before the reformation, is now appropriated to the support of the Lutheran clergy ; and the rest is dedicated to the maintenance of the university, public schools, and other objects of national importance. There is neither archbishop nor bishop in the Hanoverian church ; but the ecclesiastical affairs are administered by consistories, which amount to seven for the whole kingdom. The members are appointed by the crown, and may be either laymen or clergymen. These consistories regulate all matters relating to the discipline of the church ; they have also the management of its funds ; and the examination for clerical offices. They superintend the business of education, and the manner in which marriage, baptism, and confirmation are performed. They have the power of deciding in cases of divorce, and are judges in all complaints relative to the morals of the clergy. In every matter, however, which is not strictly appertaining to the discipline of the church, an appeal may be made from their judgment to the high court of appeal at Zell. The Hanoverian clergy are described as a learned and exemplary body of men, highly venerated by their parishioners. Their incomes are in general small. Few of the benefices exceed £300 a year, and many of them are less than half that sum. The Catholics have two bishops, one at Hildesheim and the other at Osnaburg, who are also distinct from the prince bishop of the latter place, who may be either an ecclesiastic or a layman, and is always the temporal governor.

EDUCATION is well provided for and attended to in the Hanoverian dominions. Besides the University and the Georgianum already mentioned, there are the Lyceum at Hofeld, and other institutions of a superior kind. Elementary schools are established in almost every village ; others on a more comprehensive plan are founded in the small towns ; while the cities and large towns contain academies and schools for the higher branches of knowledge. A regular system

of education has also been adopted throughout the whole kingdom, since 1750. when the well-directed liberality of *M. Botticher* endowed a school in the capital for the education of schoolmasters, who were afterwards to be appointed to the management of schools in the country towns. In Hanover and Lunéburg there are private establishments for the instruction of youth of both sexes.

The LANGUAGE, in general use in this kingdom, is the lower German, or true idiom of the ancient Teutones, which is spoken here in great purity. Hanover is generally considered one of the best places for a foreigner to learn the German language, owing to the soft accent with which it is pronounced. This circumstance, added to the relation that subsists between the two kingdoms, induces a great number of Englishmen to resort thither.

In the state of its LITERATURE, ARTS, and SCIENCES, Hanover differs little from the other parts of northern Germany. Education has been followed by its legitimate consequences; but the absence of the reigning prince, and the want of the fostering influence of an enlightened court, have retarded the progress of the liberal and polite Arts. Hanover, however, has given indisputable proofs of a capability for excelling in literary pursuits, in the eminent natives who have shone so conspicuously in other parts of Germany, or have displayed their abilities in their native land.

In MANNERS, CUSTOMS, and CHARACTER, scarcely any thing belongs to the Hanoverians which is not common to the people of northern Germany. The following brief remarks, therefore, apply to several of the other states, as well as Hanover, and will consequently preclude the necessity of a repetition in the subsequent pages.—The vast number of absolute princes, the consequent smallness of their territories, and the proneness of man to govern and to legislate, have, in Germany, so far involved all the common actions of life, as to reduce the movements of society almost to the regularity of a well-constructed machine. The Germans have literally been drilled to uniformity. So far, indeed, has this political interference in many cases extended, that neither the joys nor the sorrows of the heart are sacred from its intrusion, as every change in family circumstances must be notified to the police. The birth of a child, a marriage, a death, or any other circumstance that makes an alteration in a family must be immediately communicated. These things are also publicly announced in the newspapers by the parties themselves, which gives an offensive publicity to all the transactions of private life, that robs them of their sanctity, and degrades the best affections to the rank of common mercantile speculations. This has led to an indelicate display of many actions in common society, which in other countries are sacred to privacy. It also seems to have superinduced a laxity and ceremonious pomp which are characteristic of German society. The loss of female reputation appears to be no exclusion, and there is no one, from the prime minister to the porter, who is not addressed by the title of his office. Even the office, profession, or calling of the husband must always be applied to the wife.—My Lady Minister—Mrs. Secretary (the wife of a common clerk)—and Madame Shoemaker, must never be omitted.

With all this apparent pride and pomp, the Germans are extremely fond of society, and their intercourse appears easy and familiar. It is a source of their highest enjoyment, and one in which they freely indulge. “Every thing seems to interest them. A game at chess, a newly-discovered insect or plant, or an event on which the fate of mankind depends, seem to be equally regarded, and to excite an equal degree of warmth. Passion seldom mixes in their intercourse, disputes never. Their conversation is light and agreeable, but not important. A people who are constantly occupied with trifles can seldom speak of matters of importance. When men regard sucking tobacco smoke through a wooden tube as

one of the greatest earthly enjoyments, they may also possess a love for light and agreeable amusements, but they will hardly combine with these any special admiration of what is noble and grand."

A calm, methodical, and unruffled demeanour, with a pleasing gentleness of disposition, seem to be characteristics of the northern Germans. "*The whole conduct of the Germans seems to me,*" says the author just quoted, "*to partake of that gentle and tolerant character which also belongs to their religious practices. There is a quietness, placidness, and cheerfulness in their countenances, a readiness to oblige, and a true and estimable politeness, which can be much better felt and enjoyed than described.—There is nothing in this which is strongly expressive—nothing but which he who runs may read. There is no contortion of countenance and absurdity of conduct—no strength of phrase and vigour of step—but all is calm, quiet, and methodical.*"—*Hodgskin's Travels.*

With respect to the lower classes of the northern Germans, the same traveller has remarked, "They are too regular and mechanical to allow any thing more to be said of them, than that they eat, drink, sleep, labour, and speak, with a sulky civility and composure." The ancient Germans were celebrated for the respect they paid to their females. At present, the wives of the peasants and small farmers, besides managing the house and making clothes for themselves and families, participate in all the labours of the field. They dig, and sow, and reap, and thrash, as the men do. They are always engaged in some employment for the immediate support of the family, to the neglect of their houses and persons. They are fond of gay clothes and ornaments on holy-days and public occasions, but at other times they are objects of complete neglect. They are short, with broad faces, totally devoid of expression, and "amongst the unlovely, the most unlovely seem."

In Hanover, and some other places, the office of the priest and the sanction of the magistrate are both necessary to the consummation of marriage. These are too often substituted for the affections of the heart, particularly on the part of the female who is frequently bestowed by her parents as a matter of expediency, in which her own inclinations have no share.

There is one custom which pervades all the north of Germany, and is too characteristic of the gentleness of the German disposition—too amiable a trait in their social habits and feelings—to be omitted. It is that of making reciprocal presents at Christmas and on birth-days. So universal is this, that it has been asserted. "There is not a wife in the whole country who does not lay by some of her pennies to purchase a present for her husband. There is not a husband who does not pilfer his till, or curtail his pleasures, that he may give something to his wife. There is not a maiden or a youth who is so unlucky as not to have some friends with whom gifts are exchanged at this season. The rich buy luxuries and ornaments—the poor necessities. The prince and the noble decorate their rooms with ever-greens, that they may make the presents they give to their children and servants more acceptable. Boys receive skaits or guns, or new clothes—girls, albums, work-baskets, and necessities. The wife buys her husband a coat, and she receives a new gown, or some article of furniture. Whoever is not so dreadfully poor at Christmas as to have no friends, and nothing to give, is then happy; for he has something over which he exults, which is a secret for some persons, and a subject of conversation with others. The nature of the present is carefully concealed from those who are to receive it, till the moment it is given, though it is always something for which the person receiving it has expressed a desire."

The manner of building farm-houses in all parts of the north-west of Germany, is so different from the mode followed in this country, that a brief description of it will not be misplaced. The farms in East Friesland and Hadeln are much larger

than in the other provinces. Respecting the houses of these farmers, Mr. Hodgskin, who lately visited them, observes, "I was astonished at the strangeness and magnitude of the buildings. The rich farmers of Friesland, who have some of them fifty cows and sixteen horses, and whose dwellings are spacious, cover the whole with one roof. I have counted fifty windows in the dwelling part of the house, and attached to this, and under the same roof, were the stalls for fifty cows and twelve horses. The dwelling is at one end, at the other end is the stable; on the sides between the two ends are the stalls for the cows, the middle is the thrashing floor, the barn, and the place where the carts and the farming implements are kept. At the outside of the end furthest from the dwelling is the dung-hill. In short, the whole *farm-yard*, and the dwelling of the family, with the exception of the dung-hill, are brought under the same covering."

These were built of brick and covered with tiles, the stalls were neatly paved, and a great degree of cleanliness maintained.

The houses of the *bauers* of Germany, who are rather vassals than farmers, are built after the same plan, but are usually wretched hovels, containing little more than a stove, a stool, a table, and the cooking utensils. They are generally without chimnies, and the smoke makes its escape by any accidental opening, or is deposited in tar and soot on the beams and rafters. They are usually composed of a wooden frame, filled with clay or bricks, and are covered with high thatched roofs. Such indeed is the construction of these lowly dwellings, that their builders seem still to follow the plan adopted by their rude ancestors, when they first forsook the covert of the *thorn* for the shelter of the thatch, or exchanged the cave for the cottage.

The ANTIQUITIES of Hanover are such as are common to other parts of northern Germany, and consist of a few Roman remains, some churches founded in the early ages of Christianity, and castles, the very appearance of which suggests the idea of feudal and barbarous times.

NATURAL CURIOSITIES of almost every kind, abound in the southern parts of this kingdom, and some of them of the most singular and interesting description. There, amidst the mountains of Hartz, the lover of Nature finds ample gratification for the fatigue and difficulty of climbing their rugged acclivities. Having gained the lofty summit of the Blocksberg, a vast extent of country presents itself. The eye is not only enabled to survey the majestic forests and picturesque rocks of the mountains themselves, but to rove at pleasure over a space of nearly 8000 square miles. "Tradition, founded no doubt on the religious ceremonies of the Pagan Germans, performed here in ancient times, makes this mountain the resort of all the witches of the north; and the Spectre of Brocken, though a phenomenon perfectly natural, is calculated to strike the ignorant peasant with terror, and even to excite surprise in the philosopher. It is seen either in the morning or evening, when the spectator at the top of the mountain happens to be placed in a right line between the sun and a cloud hovering in the atmosphere at a small distance, and is merely the image of the spectator reflected from the cloud, as from a mirror, but in a magnified and distorted shape."

Among the other curiosities which this singular region presents to the notice of the enterprising traveller, is the magnetic rocks of Ilsestein and Shierka; and the caverns of Baumann and of Einhornshœl, in Sharzfeld. The former is of great extent, consisting of fourteen successive vaults, and remarkable for its stalactites and an harmonic column which emits a pleasant sound when struck by the drops of water that fall from the roof. The latter is distinguished for its fossil bones. These have been described by *Leibnitz*, in his *Protogea*, and by *De Luc*, in his *Letters to the Queen*. Several other caves are likewise to be found in the mountainous region of the Hartz, the most remarkable of which are described by *Behrens* in his *Hercynia Curiosa*.

**EXTRACTS FROM THE ACT OF CONGRESS,
IN FAVOUR OF HANOVER.**

General Treaty, signed at Vienna June 9th, 1815.

ARTICLE XXVI.—“ His Majesty the King of the United Kingdom of Great Britain and Ireland, having substituted for His ancient title of Elector of the Holy Roman Empire, that of King of Hanover, and this title having been acknowledged by all the powers of Europe, and by the Princes and free-towns of Germany, the countries which have till now composed the Electorate of Brunswick Luneburg, according as their limits have been recognized and fixed for the future, by the following Articles, shall henceforth form the Kingdom of Hanover.”

ARTICLE XXVII.—“ His Majesty the King of Prussia, cedes to His Majesty the King of the United Kingdom of Great Britain and Ireland, King of Hanover, to be possessed by His Majesty and His successors, in full property and sovereignty.

“ 1. The principality of Hildesheim, which shall pass under the government of His Majesty, with all the rights and all the charges with which the said principality was transferred to the Prussian government.

“ 2. The town and territory of Goslar.

“ 3. The principality of East Friesland, including the country called *Harlinger-Land*, under the conditions reciprocally stipulated in the 30th Article for the navigation of the Ems and the commerce of the port of Embden. The states of the principality shall preserve their rights and privileges.

“ 4. The lower county (*Nieder Graschaft*) of Lingen, and the part of the principality of Prussian Munster, which is situated between this county and the part of Rheina Wolbeck, occupied by the Hanoverian Government; but as it has been agreed that the kingdom of Hanover shall obtain by this cession an accession of territory comprising a population of 22,000 souls, and as the lower county of Lingen and the part of the principality of Munster here mentioned, might not come up to this condition. His Majesty the King of Prussia engaged to cause the line of demarcation to be extended into the principality of Munster, as far as may be necessary to contain that population. The Commission which the Prussian and Hanoverian Governments shall name without delay, to proceed to the exact regulation of the limits, shall be particularly charged with the execution of this provision. His Prussian Majesty renounces in perpetuity, for himself, his descendants and successors, the provinces and territories mentioned in the present Article, as well as all the rights which have any relation to them.”

ARTICLE XXVIII.—“ His Majesty the King of Prussia renounces in perpetuity, for himself, his descendants and successors, all right and claim whatever, that his Majesty, in his quality of Sovereign of Eichsfeld, might advance to the chapter of St. Peter, in the borough of Norten, or to its dependencies, situated in the Hanoverian territory.

KINGDOM OF WIRTEMBERG.

CHAPTER I.

Name—Situation—Boundaries—Extent—Population—Original Inhabitants—Progressive Geography—Present Division and Distribution of the Inhabitants—Outlines—General Surface—Mountains—Rivers—Lakes—Climate and Seasons—Soil—Culture—Products.

THE NAME of this kingdom is a mere transfer of that of the Grand Duchy, which formed one of the electorates of the late German empire. Wirtemberg occupies part of southern Germany, stretching from the lake of Constance to about the middle of the 49th degree of latitude, and is wholly encompassed by Bavaria, Baden, and the lake of Constance, except a small tract, east of that lake, where it borders upon Switzerland. The whole length of Wirtemberg, from north to south, is nearly 140 miles, and its greatest breadth about 95. Its limits include an area of 8200 square miles, with a population of 1,395,500 inhabitants, which is 170 individuals to each mile. The original population of this kingdom was derived from the same source as that of the other southern districts of Germany.

The foundation of Wirtemberg was the Duchy of the same name, which constituted one of the most fertile provinces in the ancient circle of Suabia; but besides this Duchy, the present kingdom includes a variety of distinct, and some independent states. Among these, are the principality of Elvangen, the ancient imperial cities of Hall, Heilbron, Eslingen, (with several others) the county of Hohenberg, and the Langraviate of Nellenburg. In 1796, the principality of Montbelliard was transferred to France, and the ruling prince of Wirtemberg received the following indemnities in Germany. The city of Weil, upon the Wurn, with about 1200 inhabitants; Reuthlingen, with 6800; Eslingen, upon the Neckar, with 5400; Rotweil, upon the same river, with 2000; Giengen, with 1800; Aalen, with 2480; Hall, and its territory, with 20,000; Gemund and its territory, with 13,000; and finally Heilbron, upon the Neckar, with its territory, and about 7000. In 1810, the city of Ulm, with a district on the left bank of the Iller, were annexed to the previous possessions. The sovereigns were at first only Dukes of Wirtemberg, a title which they maintained for several centuries. Wirtemberg was made an electorate in 1803; and elevated to the royal dignity in 1805; which was also confirmed by the Congress at Vienna, in 1815.

This kingdom was lately divided into twelve circles, which derive their names from their chief towns. These circles, with the population of each, are as follow ·

<i>Circles.</i>	<i>Population.</i>	<i>Circles.</i>	<i>Population.</i>
1. Stutgard.....	92,380	7. Rotweil.....	100,274
2. Louisburg	91,840	8. Ulrach	100,580
3. Heilbron	116,920	9. Ehingen	74,250
4. Elvringen	76,880	10. Altorf	77,060
5. Calw	85,366	11. Schorndorf	103,826
6. Rothenburg.....	112,306	12. Elwanger	96,300

The mediatized states, now united to this kingdom, and other recent changes, have raised the population to the number above stated.

Nearly the whole boundaries of Wirtemberg are formed of arbitrary lines, except where the *Iller* separates it from Bavaria for a short space on the east. They do not, therefore deserve particular description. Its *SURFACE* is greatly diversified. Ranges of mountains, undulating and variegated tracts, with wide-spreading vallies and plains, diffuse a pleasing interest over most of its natural scenery. A chain of mountains intersects it from north-east to south-west, and apparently detaches the part which extends to the lake of Constance. This separates the waters of the Neckar from those of the Danube. Another inferior ridge sweeps round the lake of Constance, and divides the waters of the Iller from those which flow into the lake. A third range stretches nearly from north to south, along the western frontiers, from the south-western extremity of the kingdom, nearly to the banks of the Neckar, where that river assumes its western direction. The central part of the kingdom forms its basin. It is but slightly undulated, and is watered by the numerous streams that become tributary to the Neckar, which winds through the very heart of the country.

The *NECKAR* is the most distinguished of its *RIVERS*. It rises near the south-east corner of the kingdom, and flows towards the north-east, nearly parallel to the principal chain of mountains. It then bends towards the north, passes Stutgard, Heilbron, and other towns, reaches the northern confines, and enters the territories of Baden, which it crosses in its passage to the Rhine. In addition to the places above-mentioned, it washes Tubingen, Ludwigsberg and Rotweil, and is navigable for barges to Heilbron, and for boats much higher. The *Kocher* and the *Jaxt* join the Neckar from the east, just before it quits the kingdom of Wirtemberg, and the *Enz*, which rises in the Black Forest, and flows along the western borders, meets it from the opposite quarter. The *Danube*, also skirts part of the southern confines, and crosses the south-east quarter to Ulm, where it meets the Iller, and enters the kingdom of Bavaria.

Much of the mountainous districts of Wirtemberg is covered with *Forests*, which produce abundance of excellent timber. Most of the lower regions are well watered and fruitful. The *SOIL*, in general, is good, and the climate mild. The summer temperature is sufficient to mature the grape, which flourishes with greater luxuriance than in most other parts of Germany. Wirtemberg includes many of the richest parts of Suabia, and produces grain of various kinds, with hemp, flax, fruits, and other species of agricultural products. The Mountains of the *Black Forest*, that stretch along the western confines, not only diversify the face of the country, but are rich in *MINERALS*. Silver and copper are found in various parts. Iron is likewise one of the mineral treasures of Wirtemberg, which also yields coal, cobalt, sulphur, porcelain, clay, marble, and alabaster. The mountains of *Alb*, that cover great part of the south-eastern districts, produce some fossils, among which is obsidian. Salt is obtained near Sulz, on the upper part of the Neckar, and several tepid and medicinal springs are included within the limits of the kingdom.

CHAPTER II.

Principal Cities, Towns, and Buildings—Manufactures and Commerce—Government and Constitution—Army and Revenue—Religion—Education and Literature—Arts and Sciences—Antiquities and Curiosities.

THE Capital of this kingdom is STUTTGARD, situated on the river Neckar, near the centre of the beautiful vale which constitutes its basin. It is seated in a narrow valley, encompassed on all sides by hills covered with vines; but the want of trees and other vegetation throws a dreary sameness over the surrounding scenery. "The *locale* of Stuttgart," observes a late traveller, "is as dull and uninteresting as can be imagined." One long and wide street runs through the city, and is now called King Street, in honour of the regal dignity lately conferred on the ruling monarch. The population amounts to about 20,000 individuals; and the modern buildings universally bespeak the increasing splendour of the prince and his state. In their architectural embellishments, indeed, may be traced the gradation of rank from the humble Counts of the empire, to the independent Sovereigns of the Confederation. New churches, and other buildings, have been erected to adorn the Capital.

The palace of the sovereign is the first public building worthy the attention of the stranger. It stands near the town, with a grove of stately trees in front, and occupies three sides of a square. The parapets are adorned with handsome statues, and the centre of the roof is surmounted by an enormous gilt crown and cushion, which induced a shrewd female on passing it to observe, "*On est toujours fier de ce qu'on ne possède que depuis peu.*" The interior of the palace is splendid, and it contains many noble works both of the pencil and the chisel. Stuttgart has two royal libraries; one contains about 150,000 volumes, the most curious and interesting part of which is a very complete collection of Bibles, amounting to about 3000.

The City of ULM was one of the Imperial cities of the German empire, but is now united to Wirtemberg, and is the second city in the kingdom. It is seated on the Danube, opposite the place where the river is joined by the Iller, and forms the boundary between the dominions of this monarch and those of Bavaria. It was the place where the archives of Suabia were kept and became rich and flourishing from its freedom. Ulm carries on some manufactures, and a considerable trade in linens, fustians, hardware, paper, wine, and wool, which is greatly facilitated by a handsome bridge over the Danube. The cathedral is a massy and venerable structure. The church of Notre Dame, and the city-hotel, are noble buildings. The abbey of St. Michael is a noted edifice. Ulm contains a college and a nunnery in which many of the daughters of the nobility are educated. The inhabitants amount to about 15,000, and are mostly protestants.

TUBINGEN is situated on the river Neckar, south of Stuttgart. The vicinity of the town is fertile in corn and wine; and the place has long been noted for its university, a seminary for the study of the law, and a college for the sons of the nobility. It is one of the oldest towns in Germany; and the pfalz of the ancient Palatines of Tubingen stood on the site of the present castle prior to the middle of the 16th century. The population now comprises about 6000 individuals.

HEILBRON is a considerable town in this kingdom, situated on the Neckar, a few miles before it enters the confines of the grand Duchy of Baden. It stands in a pleasant and fertile district, amidst vineyards and corn-fields, the culture of which, with the trade carried on by means of the Neckar, occupy a great number of the inhabitants, who amount to 6000. The name implies the *Spring of Health*, and was derived from a spring in the vicinity which was formerly used medicinally, but which now supplies the town with water. Here is a well-endowed academy, a public library, and an orphan-house, but the manufactures of the place are of minor importance.

HALL is a fortified town seated on the Kocher, in the north-east part of the kingdom. Its situation is beautiful, and the chief support of its inhabitants is derived from the salt-springs in the neighbourhood, which yield from three to four thousand tons annually. The population of the place is about five thousand five hundred. It was at Hall that the convention of the protestant princes of the empire was concluded, in 1610.

ROTWEIL, situated south of Tübingen, and near the source of the Neckar, is another considerable town. Its inhabitants, who are between three and four thousand, are principally catholics. It was formerly united to Switzerland; and was celebrated for its ancient court, the judicature of which extended over Suabia, Franconia, the Upper Rhine, and part of the Austrian states. The court bore the name of the imperial chamber, and sometimes of the aulic council.

Several other places which were formerly either classed among the imperial towns of Germany, or were capitals of the minute principalities into which it was divided, are now included within the territories of Wirtemberg; but the dull uniformity that characterizes these inferior German towns precludes the necessity of further description.

Wirtemberg has MANUFACTURES of linen, woollen, silk, porcelain, glass, and various kinds of metals, to which the nature of the country, and the riches of its mineral produce, are highly favourable. They employ a great number of the inhabitants, and not only supply the demand of the home consumption, but, together with the natural products of the country, form its principal exports. One of the most noted of these is wine. Its imports are similar to those of the other parts of Southern Germany, and are chiefly received through Frankfort and the Maine.

The Government of Wirtemberg, as guaranteed by the treaty of 1771, is a limited monarchy. The Duke then agreed to a representative constitution. But when the cumbrous system of German policy was broken by the usurper of France, and so many acts of territorial spoliation followed in its train, several of those princes who enjoyed the favour of Buonaparte followed his example in throwing off the restraint of the ancient constitutions, and ruled with a more despotic sway. Among these was the late King of Wirtemberg; but soon after his present majesty ascended the throne, the states were convened, and a new representative constitution proposed. As, however, this did not meet the views of the former representatives, the meeting was dissolved without its recognition. The ancient constitution therefore still subsists, in which the will of the sovereign is the main spring, but it has been exercised by the present king with much moderation.

As a member of the German federative body, Wirtemberg supplies a contingent of nearly 14,000 men. A small additional number of troops are maintained, but the total of the ARMY cannot exceed 20,000; and, as many of these consist of the Landwehr, they are not embodied during peace. The REVENUE amounts to about one million annually, arising partly from taxes, and partly, as in many other states of Germany, from patrimonial domains. A prudent administration renders this sum adequate to the wants of the state.

Lutheranism is the prevailing RELIGION of Wirtemberg, but the kingdom contains many Catholics, who enjoy all the advantages of free toleration. Some colonies of the Vaudois are also settled in the kingdom. The affairs of the church are under the care of four superintendants, who are styled Abbots ; and a synod is usually held in autumn for the regulation of ecclesiastical affairs. EDUCATION has been more attended to in Wirtemberg than in most of the other states in southern Germany ; and besides the university of Tübingen, there are some other valuable institutions for the promotion of literature and science. The LANGUAGE is a dialect of the German ; but inferior both in softness and purity to that of Saxony and Hanover, though exertions have recently been made to improve it, which have not been unattended with success. The arts have lately been much encouraged. The deceased sovereign displayed a princely taste in the collection of valuable works of art. Some elegant specimens of painting and sculpture have been produced by native artists ; while the patronage that was afforded by the Court induced others, from various parts of Germany, to resort to Stutgard.

As the territorial possessions of Wirtemberg were within the verge of the Roman empire, and were either planted with the colonies, or occupied by the legions of that conquering and civilizing people, several ANTIQUITIES which belong to that period have been discovered, many of which are described in a work published some years ago, by M. *Satler*, the keeper of the Ducal archives. On a hill, near *Koengen*, a few leagues from Stutgard, a Roman camp was discovered ; and, on the crest of the hill at the distance of three or four hundred yards, the remains of an ancient Roman road are visible. Upon removing the earth, the ruins of several houses were found, which seem to have been destroyed by fire ; and among them a public bath was observable. At the same time, some small statues of bronze were dug up with a number of beautiful earthen vessels, and many female ornaments. This appears to have been a continuation of the great Roman road that runs from Tyrol to Augsburg. It passed a few leagues from Munich, and was one of the most remarkable in the south of Germany.

The south-eastern parts of Wirtemberg are diversified by ramifications from the Swiss Alps. Other districts also present those CURIOSITIES that are frequently met with in such scenery, among which are two remarkable caverns ; the one near *Psulingen*, and the other in the Albian mountains.

SMALLER GERMAN STATES.

SECOND CLASS.

THIS class contains such of the German states as have each three votes in the General assembly. These are the *Grand Duchy of Baden*. The *Electorate of Hesse-Cassel*. The Grand Duchy of *Hesse-Darmstadt*, *Holstein*, and the *Grand Duchy of Luxemburg*. *Holstein* has already been described in the account of the Danish dominions; and the Grand Duchy of *Luxemburg* will necessarily be included in the description of the Netherlands.

I. GRAND DUCHY OF BADEN.

The territories belonging to this Grand Duchy stretch along the right bank of the Rhine, which separates them from France, and a detached part of the kingdom of Bavaria lying on the left bank of that river. They extend from the borders of Switzerland on the south to the confines of Hesse-Darmstadt on the north. They are bounded on the east by the kingdom of Wirtemberg, but reach the Bavarian dominions on the north-east, and the lake of Constance on the south-east. Their length from north to south is about 150 miles, but their breadth seldom exceeds forty, except near the southern extremity, where it is nearly ninety miles. The superficial extent is estimated at 5800 English square miles, and the population at 1,002,000, which is nearly 173 persons to each square mile.

Baden was formerly a Margraviate of the German empire, situated in the circle of Suabia; and, like most of the other German states, has undergone great alterations, both in territory and title, since the commencement of the French Revolution. Prior to that memorable event, part of the territories of the Margraviate of Baden were in Alsace, Luxemburg, and other provinces on the left bank of the Rhine. But when these possessions were ceded to France, by the peace of *Luneville*, concluded on the 9th of February, 1801, the German princes were indemnified for their losses by the secularization of ecclesiastical possessions, the reduction of the imperial cities, and other alterations on the right bank of the Rhine. At that period the Margrave of Baden had three votes in the council of German Princes, and one in the chamber of Counts, as Count of Eberstein. As indemnities for his late losses, he received, in 1802, the bishopric of Constance, and those parts of Basle, Strasburg, and Spire, which lay on the right bank of the Rhine, with several bailiwicks in the Lower Palatinate and Hesse, besides the Lordship of Lahr, and a number of secularized abbeys and imperial towns. The Margrave was at the same time also raised to the rank of an elector, and three additional votes in the Diet given to him. His augmented possessions then contained an extent of about 2770 English square miles, and a population of nearly 410,000 inhabitants.

When the coalition was formed against France, in 1805, Bavaria, Wirtemberg, and Baden, were the allies of Buonaparte, and after the defeat of the confederated powers at *Austerlitz* had led to the peace of Presburg and had been succeeded by the formation of the *Confederacy of the Rhine*, these states participated in the ceded possessions. Baden was erected into a *Grand Duchy* and increased with the following territories, in exchange for the town and territory of Biberach, which had been reduced from its imperial dignity, and assigned to Baden, in 1802. These were the towns and territories of Billengen and Breunlingen, the greater part of the Brisgau, the principality of Heitersheim, the county of Bondorf, the district of Ortenau, and the sovereignty of a great number of *mediatized* states. The county of Nellenberg, and some other adjacent tracts, were soon afterwards added ; and, by some interchange of territory, the detached districts on the lake of Constance were rendered contiguous to the other parts of the dominions.

The territorial possessions of Baden are now divided into ten circles, which generally derive their names from the rivers by which they are either intersected or separated. The chief towns and population are as follow :

<i>Circles.</i>	<i>Population.</i>	<i>Chief Towns.</i>	<i>Population.</i>
The Lake (Seekreis)	27,000	Constance	4,450
The Danube	73,000	Villengen	5,000
The Weisen	116,000	Lorrach	1,900
The Triesam	117,000	Freyburg	10,000
The Kinzig	118,000	Offenburg	2,900
The Murg	85,000	Rastadt	3,750
The Pfalz and Enz	130,000	CARLSRUHE	10,500
The Neckar	101,000	Manheim	18,200
The Odenwald	79,000	Mosbach	2,200
The Maine and Tauber	96,000	Wertheim	

The *Surface* of Baden is diversified by hill and dale, plain and mountain. Much of it is fertile ; other parts are covered with wood, and the only district incapable of cultivation, is a portion of the Black forest in Brisgau. The small breadth of these dominions does not admit of any large *River* that can strictly be called their own. They are indeed intersected by the Maine and the Neckar, and bounded on the west by the Rhine. The smaller streams from which the circles derive their names, are tributary to these. The country contiguous to Switzerland, is a mountainous region, and a chain runs from the confines of that division through the southern part of Baden, into the kingdom of Wirtemberg. It afterwards forms a part of the separation between them, and is joined by another range which stretches from east to west through the whole breadth of the southern part. The Brisgau is also mountainous and woody, and is part of what is usually called the *Black Forest*. The *Soil* is in many places fertile ; the *Climate* agreeable and salubrious ; and the temperature sufficient to mature the grape. Agriculture has lately been improved, and affords employment and subsistence to a great portion of the inhabitants. Much attention has also been paid by the government to the construction of Roads, the abolition of feudal vassalage, and the internal improvement of the country. Flax, hemp, wine, fruit, and timber, are not only produced in sufficient quantities for the supply of their own wants, but are exported to the adjacent countries, particularly, by means of the Rhine, to Holland. The breed of horses is good, and both the domestic and wild animals are similar to those of the other provinces of Germany. This Duchy not only produces a variety of excellent vegetables, but yields many valuable minerals ; among which are silver, iron, and cobalt.

Baden contains several important towns, a few of which shall be briefly described.

The capital of the Grand Duchy is CARLSRUHE, an appellation which implies the rest or repose of Charles. This town is situated near the Rhine, in about 49 degrees of latitude, and is the residence of the Grand Duke and his court. It was founded by the Margrave Charles William, in 1715, and at first consisted only of a castle, designed as a hunting seat, and a few wooden houses. But when the buildings began to increase, a regular plan was formed, which consisted of thirty-two streets all diverging from a point, as radii from the centre of a circle, which was occupied by the castle. Only nine of them, however, have yet been built, and the remainder are planted with rows of poplars. The buildings are almost all of stone, and among those of a public description, are the churches, the Jews' synagogue, the chancery, the town-house, and the barracks. There is also an academy founded upon an excellent plan, an institution for the instruction of schoolmasters, to be afterwards employed in the country towns and villages, and an establishment for the deaf and dumb. The present population of Carlsruhe is about 10,500.

Heidelberg is one of the most venerable cities of Germany, and is now included in the dominions of Baden. It is situated on the Neckar, at the foot of a mountain called the Giesberg, and contains about 10,000 inhabitants. The streets in general are narrow and gloomy; and there is a large stone bridge over the river. The ancient electoral palace stands on a hill in the vicinity, but is now in ruins. The curious and extensive *subterranean walks* have been closed. Heidelberg was long a celebrated place of education. Its university was founded towards the end of the 14th century, and experienced various reverses from the effects of war, till it was annexed to Baden, in 1805. The Grand Duke immediately bestowed his patronage, and a liberal grant upon this institution. The library which had been presented to the pope by the Bavarians, and lodged in the Vatican for nearly two centuries, was restored to the university in 1815. This institution is now more flourishing than at any former period. The number of Professors is 26, and that of the students between 500 and 600. There is also an Academy, and other public and private seminaries, in which instruction is well dispensed. The churches are among the chief public buildings. The environs of Heidelberg are extremely beautiful, and produce a great quantity of wine. So much, indeed, was the celebrated *Kotzebue* struck with the beauty and advantages of this town, that he says, "Were some unhappy man to ask me where he ought to live, in order, now and then to steal an hour from lurking sorrow, I should say at Heidelberg. And were some happy being, desirous to learn which place he ought to choose, in order to crown every joy of life with fresh garlands, I should again name Heidelberg. A romantic site; mild air; honest people; freedom from restraint; commodious dwellings; cheapness; what advantages! And yet these are far from being all: for Heidelberg affords a still greater, that of being in the neighbourhood of so many fine, pleasant, and hospitable towns.

"Should the wretched desire to brood alone over his sorrows, and that he always wishes to do at first, let him walk on the charming banks of the Neckar, or on the luxuriant mountains, or among the majestic ruins of the castle; or let him make little excursions to Weinheim, Heppenheim, &c. But if once his grief has broken through the pale of despair, if he no longer shuns mankind, and their bustling scenes, he may generally find amusement in the play-houses at Mannheim, Stutgard, and Frankfort on the Maine. He will meet with diversions in Darmstadt, Heilbronn, Bruchsal, Hanau, Spire, Worms, Oppenheim, Offenbach; in short, to the right or left, and in every direction." The town has long been noted for its immense tun, which is made of copper with iron hoops, and holds 600 hogsheads.

Heidelberg is not destitute of manufactures, but they embrace only a few articles, chiefly for the supply of its own wants.

FREYBURG is another of the most considerable towns in Baden, and is situated at the foot of a mountain, near the entrance of the Black Forest. It was the capital of the late province of Brisgau, and is now the chief town in the circle of Freisam. Formerly it was well fortified, and has stood repeated sieges; but the fortifications were dismantled by the French in 1744. The town is tolerably well-built, and the population amounts to nearly 10,000 individuals. It long contained a flourishing University, which was founded about the middle of the 15th century; but it is now on a much smaller scale than many of the German Universities, as the number of students seldom exceeds 300.

MANHEIM is the chief place in the circle of the Neckar, and one of the finest towns in Germany. It is situated at the confluence of the Neckar and the Rhine, and at a distance has a handsome appearance. The streets are wide, regular, and well-paved, and the buildings uniform and elegant. Mannheim was only a pleasant village in the beginning of the 17th century, but soon after it was fixed upon as the residence of the elector, and the seat of the court, whence it became a flourishing place, and was regularly fortified; but when the province was incorporated with Bavaria, in 1777, the court was removed to Munich, and the town declined. The ramparts have now been demolished, and the space laid out in gardens. The palace belonging to the Grand Duke stands on that side of the town next the Rhine, and was a large handsome building, but has suffered from neglect; though it still contains several objects worthy of notice. Among them are a gallery of paintings, a cabinet of antiquities, and another of natural history, with a library of about 60,000 volumes. The observatory of Mannheim is composed of a curious tower, 108 feet high. The custom-house is handsome, and several of the churches, hospitals, and other public buildings are large and commodious structures. Mannheim contains several establishments dedicated to the purpose of education, a literary institution, and an academy of painting and sculpture. It has also manufactures of ribbands, shawls, and linen, with extensive bleaching grounds and tanneries. It is the seat of one of the four courts of Justice belonging to the Grand Duchy, and of the supreme court of appeal for the whole state. There is a bridge of boats over the Neckar, and a flying bridge over the Rhine. The town contains a population of about 18,000 inhabitants.

DURLACH is a neat little town. It was the former capital of the Margraviate of Baden-Durlach, and now of the circle Pfalz and Euz. It has a ducal castle, handsome churches, an academy, and about 4000 inhabitants. It has a manufacture of fine porcelain, and a trade in corn, madder, tobacco, and a few other articles. *Offenburg, Villengen, Radstadt, Constance*, and some others, are neat small towns, but do not require a particular description.

The *Manufactures* of Baden are neither numerous nor extensive, yet they embrace a variety of articles, both of utility and ornament. Woollen and cotton cloth, silks, linens, shawls, leather, porcelain, and several metallic articles. The working of the mines and forges also occupies a considerable number of the inhabitants. The cutting of timber in the mountains, and conveying it to Holland and other places, are likewise sources of industry. The *Commerce* of Baden consists chiefly in exporting its wine, grain, timber, and iron. Its imports are principally East and West Indian produce, with a few manufactured articles from France and England.

The religion of the reigning prince and of many of the people, is Lutheranism; yet there are a great number of Catholics, with some Calvinists and Jews, all of whom are tolerated, and allowed the free exercise of their respective modes of

worship. The government is hereditary; and the executive part is under the direction of four ministers, who form a cabinet, called the *Ministerial Conference*. The *French code of laws (code de Napoleon)* was adopted during the time of Buonaparte, and is still in use, with some slight modifications. The *Army* amounts to about 10,000 men, and the Revenue to between £500,000 and £600,000 annually.

Education has been well attended to for some time in this Duchy; Literature, Arts, and Sciences, are consequently more flourishing, and useful knowledge more generally diffused, than in many of the other provinces of southern Germany. For the promotion of these, a number of schools, academies, libraries, and literary institutions are laudably patronized by the reigning prince.

2. THE ELECTORATE OF HESSE CASSEL.

The dominions of Hesse Cassel, are situated near the western confines of Germany, and border on the kingdom of Hanover, the Prussian states, Hesse Darmstadt, and Nassau. They include several detached districts, and the whole surface, according to the most recent statistical accounts of Germany, comprises an area of about 4413 English square miles, with a population, in 1817, of 598,320 individuals; or about 136 persons to each square mile.

The ruling prince of Hesse Cassel long bore the title of *Landgrave*, but in 1803, the electoral dignity was conferred on him through the influence of Buonaparte, who afterwards suspecting his fidelity, seized on his capital and included his territory in the new kingdom of Westphalia. The elector retired into exile, at Prague, whence he returned in 1813, was acknowledged by the allied powers, and received with enthusiasm by his devoted subjects. On the final arrangement of the German affairs by the Congress of Vienna, Hesse Cassel was composed of the following territories, viz.

Upper and Lower Hesse, the Grand Duchy of Fulda, the territory of Hanau, and the Lordship of Schmalkalden, with some adjacent districts. These dominions are now divided into the ten following provinces,

Provinces.	Extent in Eng. Sq. miles.	Population.	Chief Towns.	Inhabitants.
Lower Hesse	1883	248,000	CASSEL	19,500
Upper Hesse	651	58,319	Marburg	6,500
Hersfeld	159	19,010	Hersfeld	5,222
Ziegenhain	223	26,600	Ziegenhain	1,100
Fritzlar	136	16,102	Fritzlar	2,267
Schmalkalden	117	22,826	Schmalkalden	4,697
Fulda	618	68,006	Fulda	7,468
Isenberg	95	47,457	Birstein	1,000
Hanau	427	63,000	Hanau	11,997
Schauenburg	194	27,000	Rintelen	2,666

The surface of these territories is diversified. Much of it consists of hills and vallies, the former abounding with wood and metals, and the latter dedicated to pasturage. Upper Hesse rises into mountains, and is partly occupied by the lofty range of Wesergebirge. Fulda contains the elevated districts of Vogelsberg and Rhœn; and Schmalkalden is principally occupied by the forest of Thuringia. The highest parts of the dominions are in this district, the most elevated of which rises to 3120 feet, and some of the others to about 2500. These mountains are separated from each other by large vallies, but the elevation and the unimproved state of the country render the climate cold and uncongenial in comparison with the latitude. The country of Hanau is the most favourable to the production of useful vegetables; its soil is rich, and its climate mild. It is the only district in which the vine flourishes. The chief rivers by which Hesse Cassel is watered, are the Maine, the Fulda, the Werra, the Edder, and the Lahn. The state of culti-

vation is still rude, and the prejudices of the inhabitants, who are not only poor but ill informed on the subject, retard its improvement. Tobacco is grown along the banks of the Werra and the Maine; but potatoes supply a great part of the population with food. Flax is raised in some places, and is a valuable article for domestic purposes. The mountainous districts afford large supplies of timber; and many useful metallic productions. Among these are silver, copper, iron, cobalt, vitriol, salt, alum, marble, basalt, and coal.

CASSEL is the capital of this electorate, and is situated on the river Fulda, in the district of Lower Hesse. The older parts of the town have an antiquated appearance, but the modern additions, called the upper New Town, are regular and handsome. Cassel was the capital of Jerome Buonaparte's short lived kingdom of Westphalia, and contains more public buildings than almost any other town of its size. Among them are the government offices, the arsenal, the foundery, the barracks, the parade square, the public library, and the church of St. Martin. Several other objects also present themselves to the traveller's notice; as the public baths, the *menagerie*, the pleasure gardens, the orangery, and particularly the castle of *Weissenstein*, with its beautiful fountains and cascades. The college that was founded here in 1709, has now been converted into a lyceum. Cassel also contains a museum and other institutions for elucidating the history and antiquities of the country, with an academy of painting. Its trade is small, but it has a few manufactures of porcelain, earthenware, and woollen stuffs, with a population of about 19,500 inhabitants.

HANAU, the capital of the country of the same name, is a large town situated on the river Kinzig, on an extensive plain, near the junction of that river with the Maine. Many of the houses are built in the Dutch style. The streets of the new town are regular, and it is ornamented with a large square. Hanau is connected with the Maine by a deep canal, which, in conjunction with the other advantages of its situation, has rendered it the most commercial town in the territories of Hesse. Many of its inhabitants are also employed in manufactures of silks, camlets, hats, watches, and jewellery, which, in addition to timber, iron, grain, and flour, form the chief articles of its commerce. The population is about 12,000. In the neighbourhood of Hanau is Wilhelmsbad, noted for its mineral waters and elegant buildings, erected for the accommodation of the numerous visitors who assemble there during the season.

MARBURG is another of the considerable towns of this government. It stands chiefly on a hill which rises from the right bank of the Lahn. The summit of this eminence is crowned with a castle, and the town contains several churches, with a University, first established in 1527, which is well endowed, and usually contains about 200 students. To this institution are attached a good library a botanical garden, a chemical laboratory, and other suitable appendages. But this university has the honour of enrolling the Catholic *Leander Van Ess* among the number of its Professors,—a man whom the courageous admire for his boldness—the zealous for his zeal—the indefatigable for his perseverance—the benevolent for his benevolence, and the pious for his piety—One, in short, whom his friends almost adore, his enemies admire, and thousands yet unborn shall bless. The population of Marburg, including the students, is now about 6500.

FULDA is a considerable town, situated on the river of the same name, and contains a population of about 7500 inhabitants. It is the see of a bishop, and had formerly a university, which has now been converted into a lyceum. Fulda has manufactures of linens, woollens, and earthenware; but its commercial transactions are comparatively small.

One of the most extensive *Manufactures* of the Hessian dominions, is linen.

which is made from the flax, grown in the country; and besides supplying the home consumption, the linen and yarn annually exported amount to about £300,000. Much of the native iron and steel is wrought up in the lordship of Schmalkalden. The silk manufacture is carried on in a few places, and cotton spinning has been lately introduced. The *Commerce* of Hesse Cassel is greatly impeded by local circumstances. The principal rivers, the Maine and Weser, traverse only corners of its territory, and heavy imposts are levied on the navigation of the others, by the states through which they pass to the sea.

The sovereign of Hesse Cassel holds the eighth place in the German states, and has three votes in the general assembly of the Diet. The constitution is a limited monarchy, hereditary in the male line. The states, as fixed by the Congress, consist of the prelates, nobles, and deputies from the towns, and the peasants; but these have not yet been organized. The arbitrary disposition of the government has long excluded the liberty of the press, and the Hessians are, therefore, inferior to the Saxons and Hanoverians in intellectual improvement. In consequence of this restriction they have made greater progress in the arts than in literature. There is indeed much less freedom in Hesse Cassel than in any other of the German states. The press is under more severe restrictions, and the introduction of books disapproved of by government more closely watched. A law was promulgated, in 1818, which strikes at the root of all improvement, and is at once a commentary on the arbitrary disposition of the sovereign, and the degraded state of the people. By this compound of weakness and folly, all but nobles, counsellors, and others of similar rank are forbid to give their sons a learned education. The eldest sons of the clergy, are allowed to enter the universities, but all the others are excluded from that privilege. And be it remembered that this law relates to a part of one of the enlightened countries of Europe.

The reigning family and most of the inhabitants are Calvinists; they amount to about 340,000. The Lutherans are stated at 150,000; the Catholics at about 90,000, and the Jews at 8500. The smaller sects make up the remainder. The contingent to the Confederate army is 5400 men, but the whole of the armed force amounts to 8000 or 10,000, and the revenue to about half a million. A small public debt has also lately been incurred, and is equal to about one year's Revenue.

3. THE GRAND DUCHY OF HESSE DARMSTADT.

This principality of Germany is situated near the Rhine, and belongs to the other branch of the House of Hesse. It is divided into two parts, by the country of Hanau and the territory belonging to Frankfort on the Maine, which stretches along the right bank of that river. The southern portion of these dominions is the most extensive and fertile. It contains an area of 2000 square miles, and a population of 350,000, which is 175 persons to each square mile. The other division contains about 1900 square miles, and a population of 250,000; about 132 persons to each square mile of surface. The territorial extent of the whole Grand Duchy, including its possessions on the left bank of the Rhine, has been stated by a late German author (*M. Pauli*, 1819) to include only 3617 square miles, and 620,630 inhabitants, which is about 171 persons to each square mile.

Hesse Darmstadt has been greatly benefited by the consequences of the French Revolution. The Landgrave became an early member of the Confederation of the Rhine, and, with the title of Grand Duke, received considerable accessions of territory, with the sovereignty of the free cities within his dominions. In 1809, a further accession was assigned him, in consequence of his troops taking the field against Austria. After the battle of Leipsic, the Grand Duke agreed to join the allies, on condition of preserving his new acquisitions. This treaty was confirmed

by the Congress of Vienna, in 1815, and Hesse received, in return for cessions made to Prussia, and the other allies, the districts of Mentz, Bingen, and some tracts on the left bank of the Rhine, which had formerly been included in the French department of Mont Tonnerre, and contained a population of about 140,000 inhabitants.

Most of these dominions are mountainous. The northern part contains the ranges of Vogelsberg and Westerwald. The southern part includes the rugged Odenwald; while the left of the Rhine is diversified with the ramifications of Mont Tonnerre. The chief rivers that flow through these territories are the Rhine, the Maine, the Lahn, the Nidda, the Ohen, and the Itter. This rude conformation of the Hessian surface is unfavourable to luxuriance of climate and vegetable production; yet in some places, particularly along the banks of the Maine, and the Rhine, the soil is rich and the climate warm. In the vallies of the other parts, grain, flax, and potatoes, are successfully raised, and tobacco is grown in a few favourable situations. The mountainous districts, like those of Hesse Cassel, yield timber, iron, copper, and lead. Salt is obtained in large quantities from the mines of Creutznac, lately acquired from France. The capital of this Grand Duchy is DARMSTADT, situated on the small river Darm, at the extremity of a beautiful district called Bergstrass. It is a neat and well-built town, with a population of twelve or thirteen thousand inhabitants; composed of Lutherans, Calvinists, and Catholics. Among the principal objects worthy of attention in Darmstadt are the ancient palace of the Landgrave, the modern residence of the Grand Duke, the house where the States meet, the public library, the cabinet of natural history, and the building appropriated to military exercises, which is 300 feet in length, 150 in breadth, and capable of containing three thousand men. Darmstadt has increased rapidly within a few years, both from the cheapness of building materials, and exemption from taxes; which was allowed for twenty years to anyone who should build a house according to the government plan.

MENTZ or *Mayence*, is the largest and strongest town in the dominions of Hesse Darmstadt. It is situated on the left bank of the Rhine opposite the confluence of the Maine, and is built in the form of a semi-circle, having the Rhine as a base. It is one of the strongest fortresses in the empire, and the works are so extensive and complicated, that they would require a garrison of 30,000 men completely to defend them. Most of the streets in the interior of the town are crooked and gloomy. Among the public buildings are the electoral palace, which has now been employed as a military hospital for many years, the arsenal, and the house of the Teutonic knights. These all stand on the brink of the Rhine, and command delightful prospects. Mentz has several churches besides the cathedral, which was built in the 12th century. The public library contains a collection of 90,000 volumes; there is also a cabinet of coins and medals, and a valuable museum of Roman monuments. The environs of Mentz are extremely beautiful, and the prospect from the end of the bridge is very fine. Opposite the town is a bridge of boats, which crosses the Rhine to the village of Cassel. Mentz is a very ancient city, as Marcus Agrippa established an entrenched camp here.

Since that period this city has suffered greatly by the vicissitudes of war, and now contains a population of about 25,000 inhabitants. Neither its manufactures nor commerce are extensive; but among the former are cotton goods, and coffee of chicory. By the peace of Luneville, which was concluded in 1801, this city was joined to the French empire. The archbishopric was suppressed the following year, and it is now only a bishop's see.

GIESSEN is the capital of the southern part of Hesse Darmstadt, and is a considerable town, with a population of about 7000 inhabitants. It is now the seat of

the civil and ecclesiastical courts of *Upper Hesse*. A small quantity of linen and woollen cloth is made ; but Giessen has always been more remarkable as a place of education, than as the seat of manufactures or commerce. Its university was founded in 1607, and is still in repute.

Worms is another renowned place in these dominions, and was long considered as one of the free and imperial cities of Germany. It is situated near the left bank of the Rhine, and has frequently been reduced almost to ashes by the effects of war. It is remarkable for a Diet held there in 1521, in which Luther took an active part, and as being the place where the Reformation commenced a few years afterwards. The present population of Worms is about 6000.

Manufactures are not flourishing in this Grand Duchy. The principal are linen and woollen cloth, leather, and hardware. Nor have the *commercial* advantages of its situation, which are greatly increased by the Rhine and the Maine, been fully improved.

The Government of Hesse Darmstadt is monarchical, and the power of the Monarch is limited by two states or representatives of the nobles and the people ; but they do not appear to have been assembled of late years. The crown is hereditary in the male line, and the minority of the ruling prince ends at the age of eighteen. The people under this branch of the House of Hesse have made less progress in mental cultivation than in some of the other German states, but much attention has lately been paid to education, and there is a university at Giessen, a school of law at Mentz, and classical schools at various other places. The prevailing religion is Lutheranism ; but the population includes Calvinists, Catholics, and Jews, all of whom are tolerated.

According to the German author above mentioned, there were at the last census, 366,000 Lutherans ; 140,000 Catholics ; 98,000 Reformed ; 15,000 Jews ; and nearly 1000 Mennonites. The military establishment of the country amounts to 7000 men, besides the militia. The annual Revenue is nearly £400,000, about £80,000 of which is required to pay the interest of the national debt.

SMALLER GERMAN STATES.

THIRD CLASS.

UNDER this class we include those states that have each two votes in the general Assembly. These are *Brunswick*, *Mecklenburg-Schwern*, and *Nassau*.

1. THE DUCHY OF BRUNSWICK.

The territories belonging to the Duchy of Brunswick are situated on the ancient circle of Lower Saxony, and have Lüneburg on the north; Westphalia on the west; the dominions of Hesse on the south; and those of Hanalt, Halberstadt, and Magdeburg, on the east. The House of Brunswick is one of the most ancient and illustrious in Europe, and traces its descent from Azo I., Marquis of Este, in Italy, who died in 964. It consists of two distinct branches, the one is *Brunswick Lüneburg*, and the other *Brunswick Wolfenbüttele*. The head of the former is the king of Great Britain and Hanover, and of the latter the Duke of Brunswick Wolfenbüttele, the ruling prince in these dominions, who holds the 12th place in rank among the German princes.

This Duchy comprises two distinct parts, the principality of *Wolfenbüttele*, and the county of *Blückenburg*; comprising together an extent of about 1452 square miles, and a population of nearly 208,700 individuals, or nearly 144 persons to each square mile. The northern part of these territories is a flat country, or but slightly diversified with hills; and the southern district is a complete region of mountains, forming the thickest part of the Hartz, and is principally covered with forests. The soil of the lower tracts is fertile, and produces various kinds of grain, while the mountains yield abundance of timber, and metals. The most valuable of these is iron; the mines of which, with marble and timber, form a large part of the Ducal Revenue.

The Duchy of Brunswick is now divided into two cities and six districts, which, with their extent, population, and chief towns, are

Districts.	Extent in Eng. Sq. miles.		Population.		Chief Towns.
Wolfenbüttele	456	.....	56,593	.....	Wolfenbüttele
Schoningen	296	.....	32,880	.....	Helmstadt
Hartz	209	.....	19,841	.....	Langelsheim
The Line	95	.....	15,748	.....	Gandersheim
Weser	252	.....	31,468	.....	Stadtholendo
Blackenburg	144	.....	16,317	.....	Blackenburg.
	1452		208,697		

The two cities are Brunswick and Wolfenbüttele; the former contains a population of 29,050, and the latter 6,800 inhabitants.

A recent survey gives the following distribution of the surface of this Duchy.

	Eng. Acres.		Eng. Acres.
Under the Plough	291,575	Pasture Land	207,751
Under Garden Culture ..	16,752	Woods and Plantations ..	284,423
In Meadows	42,049	Fish-ponds and lakes	2,217

These together form an extent of 844,767 English acres; and leave about 84,200 acres which are occupied by rivers, roads, cities, towns, and villages.

BRUNSWICK is the capital of this Duchy, and is situated on the river Ocker. It was once classed among the free towns of Germany, and still retains some of its ancient privileges; but is now subjected to the government of the Duke, and has been the ducal residence since 1754.

The number of inhabitants in 1813, according to *G. Von Bellguth*, was 29,050; but they have since increased, and are now estimated at 32,000. It has twelve churches, ten Lutheran, one belonging to the Calvinists, and one to the Catholics. These, with the Ducal castle, originally a monastery, the Mint, the house in which the Diet meets, the opera-house, the new town-house, the arsenal, and the cathedral of St. Blasius, are the principal of the public buildings. Brunswick has several institutions for the promotion of education, and where instruction is given in the languages, arts, and sciences. The chief of these was the *Collegium Carolinum*, which was established in 1745. This institution was originally intended as a medium between the common schools, and the universities, but it is now only distinguished as a military establishment. Brunswick is also noted for its great annual fairs, which rank next to those of Leipsic and Frankfort.

WOLFENBUTTE is a large fortified town on a marshy plain, watered by the Ocker. It has a strong castle, formerly the residence of the Dukes, and which contains a noble library of about 120,000 volumes, among which are many very valuable works. Like most other German towns, it has often experienced the disasters of war; and at present contains a population only of about 6000 individuals.

BLANKENBURG is the capital of the county of that name, which now forms a part of these dominions. It stands at the foot of a rocky mountain, which is crowned with one of the most spacious castles in Germany. Its other principal buildings are the two churches, the town-house, and the hospital of St. George. From its situation in the mining district, it has large depots of iron and marble. It is also the seat of the provincial colleges and the ecclesiastical superintendency; but its population does not exceed 3000.

The manufactures of this Duchy, its form of government, its laws and constitution, and the progress of its people in mental culture and the arts of life, are not essentially different from those of the principalities already described. Its chief productions, beyond what are required for its own consumption, are wheat, rye, wool, linen, yarn, rape-seed, hops, madder, vitriol, sulphur, zinc, cobalt, and a few other articles. These are the principal exports, and amount to two millions and a half of Rix-dollars annually. The chief imports are wine, sugar, tea, and coffee. Most of the inhabitants are Lutherans; the whole of the Catholics and Calvinists together being only estimated at between three and four thousand. The contingent *army* fixed by the Diet is 2096 men; about 3000 therefore includes the whole military establishment. The annual Revenue arising from taxation is about £170,000 a year, but in addition to this the Prince has an yearly income of about £210,000, from his patrimonial domains.

2. THE GRAND DUCHY OF MECKLENBURG-SCHWERIN.

This Duchy borders on the Baltic and Holstein. It is bounded on the east and south by Mecklenburg-Strelitz, and the kingdom of Prussia; and on the west by the southern extremity of the Danish dominions. The whole extent is computed at 4800 English square miles, and its population at 358,000 individuals, being about seventy-five to each square mile. Mecklenburg is diversified by gentle eminences, but is wholly destitute of mountains. It contains numerous lakes, marshy districts, and tracts of sand scarcely susceptible of cultivation. Forests also cover large portions of the surface. The climate is cold and moist, but has been improved

within the last century, by the progress of cultivation; for during that period the forests have been reduced, and the remainder in several places opened by roads. Many of the marshes have also been drained, and converted into productive soil. The inhabitants, who are but thinly spread over the surface, are principally employed in agriculture; and grain, wool, sheep, and horses, form their chief exports. The horses are large and strong, like those of Holstein.

SCHWERIN is the capital, and the usual residence of the Grand Duke. It is situated on the western border of a pleasant lake, by which it is almost surrounded. The ducal palace stands on an island, and communicates with the town by means of a draw-bridge. Its principal public building is the cathedral, which is a large Gothic pile, distinguished by its handsome spire.

GUSTROW is situated on the river Nebel, and is surrounded by a wall with six gates. It was formerly the residence of the Dukes of Mecklenburg-Gustrow, but after this family became extinct, it devolved upon that of Schwerin. It is noted for its breweries and distilleries; and has a population of six or seven thousand inhabitants, with a conspicuous castle.

ROSTOCK is a handsome town situated on the river Warne, about ten miles from its entrance into the Baltic. It is the most commercial place in the Duchy, and exports about 120,000 quarters of grain annually. Large vessels cannot come up to the town, but load and unload at the mouth of the river.

WISMAR is the other chief port in Mecklenburg, and stands near a bay of the Baltic. It has one of the best harbours on the southern shores of that sea, and admits ships of every size; but it is about three miles below the town, where vessels, drawing only thirteen feet water, can arrive. The trade is of the same kind as that of Rostock but not so extensive.

Manufactures do not flourish in Mecklenburg, and the commerce of the Duchy consists chiefly in exporting the surplus produce of the soil, and in importing colonial produce and manufactured articles for the supply of its own wants. The exports consist of wheat, rye, barley, oats, peas, and malt. The imports of coffee, rum, sugar, and tobacco, with salt, which is an article in great request. The religion is chiefly Lutheran. The government is hereditary; the army is composed of about 4000 men, and the annual revenue amounts to nearly £175,000.

3. THE GRAND DUCHY OF NASSAU.

The dominions of this Duchy are inclosed between the Rhine and the Hessian territories, and border on the Prussian province of the Lower Rhine. Nassau has participated in the political changes consequent upon the French Revolution. In 1802 the house of Orange received an indemnification in this quarter for the loss of the Stadtholdership. On the formation of the Confederation of the Rhine, Nassau was further enlarged, and the title of Grand Duke conferred. At the adjustment of Germany, in 1815, considerable exchanges took place with Prussia; and its extent is now 2186 square miles, with a population, in 1818, stated at 303,000, or about 138 persons to a square mile. Nassau is divided into three governments; those of *Wiesbaden*, *Weilburg*, and *Dillenburg*. Its surface is almost one continued series of hills, diversified by vallies, and containing a few vales watered by the principal rivers, but presenting no tract that deserves the name of a plain. The principal ranges of mountains are the Westerwald and the Taunus. The rivers are the Rhine, on the west; the Maine on the south; with the Lahn and the Aar in the interior. Near the banks of the Rhine and the Maine the climate is temperate, the soil fertile, and wine is one of its principal products. But, in the more elevated parts of the Duchy, and particularly where the Westerwald rears its lofty ridges, the air is often cold and piercing, though salubrious. The chief objects of cultivation are the vine and the rearing of cattle.

The quantity of grain raised is inadequate to the supply of the population. The best wine is made along the banks of the Rhine, and the best wheat grows along those of the Lahn and the Aar. The mountain districts abound with mineral treasures, which include silver, iron, and lead. Salt is also one of its valuable products ; and there are few districts in Germany more noted for its mineral waters. Among the places most frequented on this account are Ems, Wisbaden, Lower Selters, Upper Lahnstein, and Schlangenbad. Such is the repute in which the water of Selters is held, that large quantities of it are sent to various parts of Germany.

The capital of the Grand Duchy is NASSAU, situated on the river Lahn. It is a small town containing less than 2000 inhabitants, and only remarkable for the ruins of the ancient castle of Nassauberg, which stands on a neighbouring hill. This castle gave name to the reigning family, and consequently to the territory which constitutes their hereditary domains. But the present residence of the Duke is at IDSTEIN, a neat little town, with a population of about two thousand individuals.

DILLENBURG is the largest town in the rugged tract called Westerwald, and contains about 3200 people. WISBADEN is noted for its mineral waters, and is greatly resorted to from all the western parts of Germany. Its population is about 4000. DIETZ is also a small well-built town in this Duchy, situated in a fertile valley on the Lahn, at the place where that river becomes navigable. It is one of the neatest towns belonging to Nassau, with a population of one thousand eight hundred individuals.

Smelting and manufacturing the metallic produce of the mountains give employment to a great number of the inhabitants of this Duchy ; besides which others are engaged in making paper, leather, vinegar, and potash, and preparing tobacco. Much coarse linen is also made ; and a small trade is carried on in exporting these articles, and importing grain, colonial produce, and a few other necessities for the domestic consumption of the country. The government of Nassau is properly a limited Sovereignty ; and it is one of the few states in Germany which have yet received a regular deliberative assembly. Justice is administered by the high court of appeal, held at Dietz ; by another court at Wisbaden, and by inferior courts established in various parts of the country. With respect to Religion, the inhabitants are almost equally divided between Lutherans, Calvinists, and Catholics. All sects are tolerated and appear to live in greater mutual harmony than in many other parts of Germany. The first two of these denominations have lately given a strong exemplification of true Christian spirit, in agreeing to renounce their distinctive appellations, and to unite in one body as the professors of the *Evangelical Faith*. The armed force of Nassau amounts to between two and three thousand ; and the annual revenue to about £180,000.

SMALLER GERMAN STATES.

FOURTH CLASS.

THE states included in this class are such as have only one vote in the German Assembly of the Diet. They amount to 25 in number, and for an enumeration of them, we must refer to the GENERAL View of Germany, page 426.

1. THE GRAND DUCHY OF SAXE WEIMAR.

The present possessions of this Grand Duchy embrace the countries of *Saxe-Weimar* and of *Eisenach*, with parts of the county of *Henneberg*, and the circle of *Neustadt*, and the lordship of *Blankenhayn*. The whole territory contains an extent of about 1430 square miles, and a population of 201,000 inhabitants, which is nearly 140 individuals to each square mile; thus the density of its population nearly equals that of some of the best agricultural counties of England. These territories were increased nearly one-fourth, in 1815; for by the 37th article of the general Act of Congress, his Majesty the king of Prussia engages to cede to his Royal Highness the Grand Duke of Saxe-Weimar, districts contiguous to the principality, containing a population of 50,000 inhabitants; 27,000 of whom belonged to the principality of Fulda.

This Duchy comprises a portion of the ancient Thuringia, and is encompassed by the Prussian monarchy, the grand Duchy of Saxe-Gotha, and some of the other smaller states. Part of its surface is mountainous and woody, while the remainder consists of valleys and plains, watered by the Saale, the Ilm, the Neisse, the Orla and other streams. In many of these vales the soil is good, and yields grain, fruit, flax, and other common products. The mountains afford timber and various kinds of metals, in working which a great number of persons are employed.

The capital is WEIMAR, which is situated on the Ilm. Its principal object is the Palace of the Grand Duke, which contains one of the most valuable Libraries, and one of the most complete cabinets of coins and medals in Germany. Its population is 8530, whose chief support is derived from the residence of the court, and the seat of the public offices, with the numerous strangers whom this liberal and enlightened Prince causes to visit, or to reside in his capital. JENA is a much more noted town in other respects. It is situated on the Saale, in a valley nearly encompassed by hills, and contains about 5000 inhabitants, who derive their greatest advantages from the university, and three well-attended annual fairs. The object which has long conferred celebrity on this town is its university, which was founded in 1558, and now belongs to four proprietors. The Grand Duke of Saxe-Weimar has one half, the other is divided among Saxe-Gotha, Saxe-Coburg, and Saxe-Meiningen. It has four faculties; those of divinity, law, medicine, and philosophy, with eighteen regular, and fourteen extraordinary professors. The number of students is generally six or seven hundred. The various buildings and institutions belonging to this university are well adapted to promote the objects for which it was established.

Jena also contains two literary societies, many of the members of which are distinguished by their labours; while the journals which are published there are in high repute throughout Germany. In addition to the celebrity thus conferred on Jena, it acquired notoriety as the scene of that action between the French and Prussians, in October, 1806, which proved so fatal to the latter monarchy.

EISENACH, on the Neisse, is the capital of the principality of the same name, and has a population of six or seven thousand inhabitants. On an adjacent mountain stands the decayed castle of Wartburg, which was rendered memorable as the temporary retreat of Luther in 1521. NEUSTADT is another of the principal towns of Saxe-Weimar, but does not contain any thing remarkable.

The ruling prince of Saxe-Weimar has, perhaps, paid more attention to literary and philosophical pursuits, and the diffusion of useful knowledge, than any other prince in Germany. His court has long been the resort of the literati from all parts of Europe, and particularly from all the states in Germany. Saxe-Weimar is consequently superior to almost every other in the Confederacy, in arts, sciences, and literature; and with this the improvement of the people in all the arts of life has kept pace. A traveller, who lately visited Weimar, styles that town the modern Athens; "the seat of learning, of the muses, and the sciences." The Grand Duke is a liberal friend of the Arts and Sciences, and an accurate judge of merit. He has followed the illustrious example of several of his predecessors, who were distinguished as the friends of independence and the patrons of the arts. The library at Weimar is deserving of particular attention; and contains about 100,000 volumes, in a great variety of languages, ancient and modern. The chief religion is Lutheranism. The amount of the armament is between two and three thousand men; and the revenue is about £150,000.

2. THE DUCHY OF SAXE-GOTHA.

This Duchy comprises a great part of the southern regions of Thuringia, and a portion of the principality of Altenburg, with some other smaller possessions. The whole surface is about 1170 square miles, and its population 185,000 inhabitants, or nearly 159 individuals to each square mile. The dominions of this Duchy are surrounded by those of Prussia, Saxe-Weimar, and Schwartzburg. Its south-western districts are hilly, and mostly covered with forests; but the other parts are more level and productive. In these, agriculture is the chief object of attention, and grain of various kinds is raised in considerable quantities. Flax is also grown, and woad was much cultivated before the use of indigo became so prevalent in dyeing. The principal rivers are the Leine and the Neisse. Among the mineral products are iron, coal, manganese, and cobalt. Besides the employment of agriculture and mining, many of the inhabitants are engaged in manufacturing ticken and woollen-cloth.

GOTHA is the capital of this Duchy, and, according to a traveller by whom it was lately visited, "is a beautiful object. It is built round a hill of considerable elevation, and towers above the surrounding country, presenting fine prospects in every direction. The suburbs, which are extensive, contain a number of houses in the midst of elegant gardens, and give a cheerful aspect to the environs. The streets within the city, though some of them are steep, are handsome, many of the houses are very large, and the whole has the appearance of opulence and comfort. The most prominent object is the Schloss, or ducal palace, in which the reigning Duke resides. It is raised considerably above the city and overlooks every part of it."

It contains a large and valuable library, with a rich collection of curiosities. In the library there are a great number of manuscripts, among which are more than 3000 charters and other official documents, with a great number of scarce works

on coins. Gotha is partly encompassed with rows of stately trees and the suburbs are ornamented with fountains. It has manufactures of porcelain, woollen, and cotton, and participates in the trade between Leipsic and the south-west of Germany. Its population is nearly 12,000.

ALTENBURG is a large well-built town within the precincts of this Duchy. It was formerly the capital of the principality of that name, but which has now been divided between the houses of Gotha and Saalfeld. This town has manufactures of cotton and wool, with a trade in corn and cattle, and a population of about 9500 individuals.

Saxe-Gotha is altogether an independent state, and the government is far from being absolute. The executive part is possessed by the Duke and his privy council, but there is a Diet composed of the land-holders, and deputies from the towns, who meet every fourth year, for the purpose of exercising the legislative functions. The Religion of the state is Lutheranism, but all persuasions are tolerated, and the superintendence both of public worship and of education is vested in a consistory. The Duke maintains a small armed force, and his contingent to the general army of Germany is 1875 men. The annual Revenue of the state is about £150,000.

3. THE PRINCIPALITY OF SAXE-COBURG.

This principality borders upon those of Henneburg, Schwartzburg, Altenburg, and the kingdom of Bavaria. It is smaller than those already described, but better peopled than any of them; except Saxe-Gotha. Its superficial extent is only 580 square miles, and its population is 80,000, or nearly 140 persons to each square mile. A part of the ancient Thuringian forest is comprised within its limits, and gives a mountainous character to that part of the principality; but many of the other districts consist of fertile vallies and plains, which are productive in grain, flax, hops, and fruit. The upland tracts are either covered with wood, or afford good pasturage for numerous flocks of sheep. The chief mineral and fossil treasures are iron, copper, coal, marble, alum, gypsum, and chalk.

The capital of this principality is COBURG, situated in a pleasant valley, watered by the Itz. The town is in general well-built. The market-place is a handsome square, containing the town-house, and the government offices. The castle is the usual residence of the reigning prince. Coburg has a few manufactures, among which are various articles made of the petrified wood that is found in the vicinity. It has also six annual fairs; with a great trade in wool. The population is about 7000, many of whom are employed in the marble works and quarries in the neighbourhood.

SAALFELD, which was formerly a town of great importance, is now the second town within the principality. It is situated on the Saale, and has several public institutions, with some manufactures of silk and cloth. It possessed the mint for Upper Saxony; and on a hill not far distant is the Benedictine monastery, called Saalfeld Abbey, the Abbot of which was always a prince of the German empire, and had a seat in the Diet.

The chief manufactures of this principality are those of leather, gunpowder, glass, and potash, with a little silk, cotton, woollen, and linen. These, with cattle, wool, wood, and slates, are the chief articles of its exports. The government is hereditary; and the inhabitants are principally Lutherans, but free toleration is allowed. The contingent army is 800; and the annual Revenue is about £52,000.

4. THE DUCHY OF SAXE-MEINUNGEN.

This Duchy borders on Saxe-Coburg and the kingdom of Bavaria. It is

composed of two parts, of *Oberland* and *Unterland*, which together include a superficial extent of 550 square miles, and a population of 56,000 inhabitants, or nearly 125 persons to each square mile. *Unterland* is the larger of the two districts and lies on both sides of the river *Werra*. Part of it is covered with extensive forests; but other districts abound in pasture and tillage. It also contains mines of iron, coal, and cobalt. *Oberland* is a hilly tract, and its principal products are timber and minerals. The whole population amounts only to about 16,000.

MEINUNGEN, the chief town in the Duchy, is situated in a mountainous district on the banks of the *Werra*. Here is an elegant castle and library, belonging to the reigning Duke, with a lyceum, a council-house, and a hall for the assembly of the States. It has a small manufacture of black crape, and a population of about 4200 inhabitants.

Little of the industry of Saxe-Meinungen is applied to manufactures, which are only carried on upon a very small scale, and consist of woollens, linens, and hardware; but its principal export is *Salt*, from the mines at *Salzungen*, which have long been celebrated for the production of this useful substance. Most of the inhabitants are Lutherans: and the annual Revenue is about £35,000.

5. THE DUCHY OF SAXE-HILDBURGHAUSEN.

This diminutive principality borders on Saxe-Coburg and Saxe-Meinungen, and occupies a surface of 235 square miles, and a population of 30,000 inhabitants, which is 128 to each square mile. The northern part is hilly and covered with wood, and the soil possesses but little fertility in the other regions; so that timber and metals constitute the principal wealth of the country. Much of the open grounds is in pasture, and very little grain is raised.

HILDBURGHAUSEN is the capital of the Duchy. It is situated on the *Werra*, which is the principal stream that intersects the country. It has a gymnasium and a town-hall, in which the states of the principality hold their meetings, with some manufactures of cloth, and a population of 2500 individuals.

The manufactures of the whole Duchy consist of a few woollens and linens, with thread, glass, dye-stuffs, salt, and vitriol; and these are the chief articles of their exports. The power of the Duke is limited by the assembly of the nobles and the representatives of the people; and the executive part of the government is divided with all due German formality, into shreds of power, called the departments of justice, finance, education, police, public-works, and the army; though the last consists of only 300 men, and the Revenue of £15,000 a year, which is encumbered with a public debt. The inhabitants are mostly Lutherans.

6. THE GRAND DUCHY OF MECKLENBURG-STRELITZ.

This division of Germany is situated south-east of Mecklenburg-Schwerin. It is a flat country, full of lakes, marshes, and sandy plains; which render the air very damp and cold during several months of the year. The whole of this Duchy occupies about 875 square miles, and is inhabited by 72,000 people; which gives a comparative population of only 82 persons to each square mile. This, however, is seven more than Mecklenburg-Schwerin; but the productions, the employment of the people, the state of society, and the profession of religion, are the same in both.

STRELITZ, the chief town, is situated in a marshy district, in the south-east part of the dominion. It is the residence of the Duke and his court. It contains, therefore, the public offices, with the houses of some of the principal nobility. None of the other towns deserve notice in this brief sketch. The amount of the army, belonging to this dukedom, is about 700, and the annual Revenue £70,000.

7. THE GRAND DUCHY OF OLDENBURG.

The dominions of the Grand Duke of Oldenburg include several detached portions of territory in the north-west of Germany. The chief of these is Oldenburg Proper, which is almost surrounded by the kingdom of Hanover, and extends to the shores of the German ocean on the north. The present possessions of the Grand Duke, with their extent and population, are,

	<i>Area.</i>		<i>Population.</i>
Oldenburg Proper, including the country of Delmenhorst, with the Lordships of Varel, Jever, and Knipphausen..	2250	....	178,000
The Principality of Eutin or Lubeck.....	260	....	20,000
The Lordship of Berkenfeld	170	....	20,000
Total	2620	....	218,000

Oldenburg Proper is entirely a flat country, greatly resembling Holland. Some parts of the coast are so low that it requires dikes to prevent inundation. In these districts, and near the banks of the principal rivers, the soil is rich, but in many others it is either marshy or sandy, and yields but little that is valuable in domestic economy. The climate is moist, like that of the northern districts of Holland. The chief rivers are the Weser, the Hunte, and the Deline. The only small lake is the Dummersee. The population gives about 83 persons to each square mile, and they are chiefly employed in attending to cattle and fishing, as the country seldom grows sufficient grain to supply the wants of the inhabitants. Its common produce is the usual kinds of grain, hemp, flax, and hops. A great many horses and cattle are bred; which, together with butter and cheese, are exported. Amber is sometimes found on its coast, and turf is dug from the moors and made an article of traffic.

The capital of this Duchy is OLDENBURG, situated on the river Hunte. It is a fortified town, and, including the suburbs, has a population of about 5000 people. The mansion of the Grand Duke, with three churches, three hospitals, and an observatory, are its principal public buildings. There is also a gymnasium, and a seminary for the instruction of school-masters. The courts of justice and government offices are situated at Oldenburg. It has also some soap-houses, tanneries, and sugar refineries; but its chief trade is in wood.

Very few manufacturing establishments are to be found in this duchy; and the linen, yarn, and stockings that are made are chiefly produced by the peasants, during the intervals of their other occupations. The House of Oldenburg is one of the most illustrious in Europe; the royal families of Denmark, Sweden, and Russia have all descended from it. In the administration of public affairs the Duke, according to the articles of the Germanic Confederation, is to be assisted by a representative assembly of the people, but this does not seem to have been regularly convoked. For the more easy and effectual administration of justice, the Ducal dominions have been divided into seven circles, and a regular court established in each. The majority of the inhabitants are Lutherans. Education, both here and in many other parts of northern Germany, has not been neglected, and most of the inhabitants can read and write. The contingent army is rather more than 2000, and the revenue about £126,000 a year.

8. THE DUCHY OF ANHALT DESSAU.

This Duchy occupies a part of the ancient principality of Anhalt, which is now divided among the three branches of that house, and each division takes its name from the place where the ruling prince usually resides. *Anhalt Dessau* is that

portion of the ancient territory which lies on the banks of the Elbe, at the junction of the Mulda. It is a level country, encompassed by the Prussian territories. Some parts are sandy, and others near the rivers are marshy; but the climate, upon the whole, is salubrious. The duchy yields grain, tobacco, and fruits. Cattle and wood are the chief exports. The whole superficial extent is 470 square miles, and the population about 54,000; the number of people to each square mile is therefore about 115.

The chief town of this duchy is DESSAU, which is situated on the Mulda, a little above its confluence with the Elbe. It contains the ducal castle, the government house, and several churches belonging to the Lutherans, the Calvinists, and the Catholics, with a Jewish synagogue. The population is about 9500 inhabitants; nearly 1000 of whom are Jews. Dessau is pleasantly situated in a valley, and was frequently occupied and abandoned in September and October, 1813, by the hostile forces in that memorable campaign.

Most of the inhabitants of Anhalt-Dessau, with the reigning family, are Lutherans. The army comprises only 540 men, and the annual revenue is about £51,000.

9. THE PRINCIPALITY OF ANHALT-BERNBURG.

This principality is a portion of the ancient province of the same name, and is situated on the western frontiers of the former duchy, to which it is similar in general appearance, climate, and productions, with the exception of a small detached portion, which includes a part of the Hartz mountains, and produces mineral treasures. The soil of the other districts is more rich and productive. These possessions contain only about 345 square miles, with a population of 37,000, or 107 persons to each square mile. The number of men which this state contributes to the army of Germany is 307, and the annual revenue is about £39,000.

BERNEBURG is the capital of these territories, and is situated on the Saale, which divides it into two parts. These contain about 400 houses, and 2500 inhabitants, and are connected together by a bridge. The most prominent object is the castle, which is situated on an elevated rock, and surrounded with ditches. Bernburg has manufactures of earthenware, glass, starch, and hair-powder; and there are iron works in the neighbourhood.

10. THE PRINCIPALITY OF ANHALT-KOTHEH.

This part of the dominions of Anhalt is contiguous to the southern frontiers of the other two divisions, which it resembles; but it is less extensive and populous. It contains about 320 square miles, which are inhabited by a population of 32,500 individuals, or 102 persons to each square mile. The majority of the inhabitants are Lutherans, and the annual revenue of the state is nearly £23,000. The capital is KOTHEH, a small town situated in a line between Bernburg and Dessau. It is a poor place, and contains nothing remarkable, except the castle, which is the residence of the ruling prince.

11. and 12. THE PRINCIPALITIES OF SCHWARTZBURG-SONDERSHAUSEN, AND SCHWARTZBURG-RUDOLSTADT.

The territories belonging to the house of Schwartzburg, which are now divided between its two branches, consist of detached parts, situated among that crowd of minor principalities that are comprised between the Prussian, the Bavarian, the Saxon, and the Hanoverian dominions. These two principalities are entirely detached from each other. Sondershausen is encompassed by the Prussian territories, and contains an area of 368 square miles, with a population of 45,000 inhabitants, which is an average of nearly 122 to each square mile. The Revenue is stated at £27,500 a year. Mr. *Hodgskin*, who lately visited Sonderhausen,

describes it as a fine fruitful country; but thinks the people as rude and ignorant as any in Germany. The princes of this house were once celebrated for learning, but are now only known as good hunters. Notwithstanding the contiguity of the court to that of Saxe-Weimar, they afford a complete contrast, in literary, scientific, and polite attainments. The one country is the *Attica*—the other the *Bæotia*, of Germany.

The part belonging to the *Rudolstadt* branch, which is situated south of the former, is comprised between the dominions of Saxe-Weimar, and those of Saxe-Coburg. It is watered by the Saale, and contains an area of 380 square miles, with 54,650 inhabitants, or an average number of 144 persons to each square mile. The annual Revenue is £22,000. Most of the inhabitants in both principalities are Lutherans. The nature of the country, the products, the employment of the people, and their commercial transactions, are similar to those of the adjacent states.

SONDERSHAUSEN, the capital of the northern division, is situated on the river Wipper. It is a well-built, and fortified town, with a population of about 4500 inhabitants. RUDOLSTADT is the capital of the other principality, and stands on the Saale, near the eastern extremity of the dominions. It is a neat town, with a population of about 4000 individuals.

13. HOHENZOLLERN-HECHINGEN.

This small sovereignty is situated in the south-west of Germany, and is surrounded by Wirtemberg and Baden. It forms part of the old principality of Hohenzollern, which is now divided into the two parts, of *Hechingen* and *Sigmaringen*. The whole is a hilly region, and better adapted to pasturage than tillage; the breeding of cattle is consequently more practised than the raising of grain. Much of the mountainous parts is covered with forests, and supplies abundance of timber. The extent of this principality is only about 107 square miles, and the population 14,500, many of whom are Lutherans. This gives about 135 persons to each square mile. The chief town is HECHINGEN, from which this division takes its name. It is a small place, situated on the river Starzel, and contains about 2600 inhabitants, with an unimportant manufacture of woollen cloth. It is the residence of the prince, and the seat of the courts and public offices of the principality. The whole amount of the contingent army, is only 145 men, and the annual Revenue £8000

14. THE PRINCIPALITY OF LICHTENSTEIN.

This small principality is encompassed by the Tyrol, the Voralberg, and Switzerland. It is chiefly a hilly region, with fertile and productive vallies, yielding the various kinds of grain and fruits common to the adjacent provinces. Its extent is about 54 square miles, and the population, according to the latest statement, was 5550, most of whom are catholics. The number of its contingent in the formation of the confederate army, is 55 men; and the whole revenue about £5000. Such are some of the minute portions of this vast country, which are dignified with the pompous appellations of *principalities*, and their possessors with the title of hereditary princes.

15. HOHENZOLLERN-SIGMARINGEN.

This part of the ancient principality of Hohenzollern is in all respects like that already described. Its superficial extent is about 438 square miles, and its population 35,360, which is 82 individuals to each square mile. It is, therefore, much less populous and productive than the other part of the province. It derives its name from the chief town, which is the residence of the reigning prince. This is situated on the Danube, and, like most other Germans towns, contains a castle,

which is a prominent object. Many of the inhabitants are Catholics. The armed force is 354 men, and the national income £24,000.

16. THE COUNTY OF WALDECK.

This small county is situated in the 52d degree of latitude, and enclosed between the dominions of Hesse-Cassel and the western parts of the Prussian states. It is about 24 miles long, and 20 broad, and has a surface of 450 square miles, with a population of 52,000, or an average number of nearly 116 to each square mile. Much of the surface is hilly, and in part covered with forests, but the lower districts are fertile, and abound both in cattle and grain. Besides timber, the higher regions yield several metallic products, among which are iron, copper, quicksilver, and alun. The principal elevations are towards the southern borders; and north of these, the *Eder* crosses the county, in its eastern course to join the Fulda. The capital is CORBACH, situated near the western confines, and on the river Iller, which divides it into two parts. *Waldeck* is a small town, near the south-eastern extremity of the county. Most of the inhabitants of the principality are Lutherans. The contingent, as fixed by the Diet, is 519 men, and the annual Revenue, according to the latest statement, is £48,000. This prince has one vote in the general assembly of the German states; but he is united with five or six of the other sovereigns of small territories, in one vote in the Diet.

17. and 18. THE PRINCIPALITIES OF REUSS.

The territories of the house of REUSS are situated on the western confines of the kingdom of Saxony, and immediately south of those of Saxe-Weimar. The country is irregular in its shape, but is mostly flat and fertile, and watered in its greatest length, from south-east to south-west, by the Saale, as well as being intersected in the eastern part by the Elster. Like many other of the territorial possessions of Germany, it is divided between the two branches of the house to whom it originally belonged. Each of those branches has the privilege of voting in the general assembly of German Princes. The possessions of the elder branch contain about 150 square miles, with 22,250 inhabitants, which is, therefore, a comparative population of 148 persons to each square mile. The annual Revenue is about £13,000. The territories of the younger branch are more extensive, but not so well peopled. They amount to 430 square miles, and the population to 52,000 inhabitants; which is 121 persons to each square mile. The Revenue of this part amounts to about £42,000. Neither of these principalities contains any town of consequence; and the inhabitants of both are chiefly Lutherans.

19. THE PRINCIPALITY OF HESSE-HOMBURG.

This is a small tract of country in the southern part of the Grand Duchy of Hesse-Darmstadt, and lies a few miles north of Frankfort on the Maine. It is situated at the foot of the Taunus mountains, and, with the title of Landgrave, belongs to the younger branch of the house of Darmstadt. It originally contained only about 7000 inhabitants; but through the influence of the sons of the reigning prince, who have been conspicuous in the Austrian army, additional territories have been granted, and the population now exceeds 20,000 individuals. When the confederacy of the Rhine was formed, the prince of Hesse-Homburg was deprived of his dominions; but these were restored by the Congress of Vienna, with an additional territory on the left bank of the Rhine, and he has since been admitted an independent member of the Germanic Confederation, with a vote in the general assembly. The annual Revenue is about £18,000 a year. The reigning family and many of the inhabitants are Calvinists. It was the hereditary Prince of this small state, to whom the Princess Elizabeth of England was married in 1818. The capital is

HOMBURG, which is about nine miles north of Frankfort on the Maine. The surrounding country is beautiful, and the town is backed at a short distance by lofty mountains, for which reason it is often called *Homburg on the Height*, to distinguish it from another town of the same name, standing on the Lahn, in the northern part of the dominions belonging to the house of Darmstadt. Homburg has a few manufactures of stockings, hats, and watches, with a population of about 3000 individuals.

20. and 21. PRINCIPALITIES OF LIPPE-DETMOLD AND LIPPE-SCHAUMBURG.

These two principalities belong to the two branches of the same family, and are situated in the southern part of the kingdom of Hanover, or rather between that kingdom and the western states of Prussia. The country is hilly, and in great part covered with forests of oak and beech. The Weser separates these principalities and gives each the advantages of a water communication with the sea. In climate, soil, and products, they are the same as the southern districts of Hanover, and the adjacent territories of Minden. The dominions of Lippe-Detmold, contain 510 square miles and about 69,000 inhabitants, or nearly 135 to each square mile. The Revenue is £46,500. *Lippe-Schaumburg* is much less, including only 214 square miles, and 24,000 inhabitants, or about 112 persons to each square mile; and an annual Revenue of £21,500. The number of inhabitants of both is, therefore, about 93,000. They are chiefly composed of Lutherans and Calvinists.

DETMOLD is the capital of the southern principality, and is situated near the western frontier of the dominions. It is a well-built town, with a strong castle, and a population of about 2400 inhabitants. It is nearly 25 miles south-east of Minden.

BUCKEBURG is the chief town in the other division of the principality. It is a neat small town, very near the western confines of the Schaumburg territories, and a few miles east of Minden. It is only distinguished as the residence of the reigning family, and the seat of government.

FREE CITIES.

At one period Germany contained fifty-one **FREE CITIES**. To them the ingenious manufacturers and enterprising merchants of the country resorted, and, by becoming the centres of industry and commerce, they grew rich and flourishing. This prosperity appears to have caused a constant struggle between them and the princes in whose dominions they were situated; and a combination of circumstances has at length reduced their number to four. To this result, the success of Buonaparte, his desire to reward his allies, the establishment of the Confederation of the Rhine, and the final adjustment of the Germanic body, by the Congress at Vienna, have all contributed. These four are *Lubeck*, *Frankfort on the Maine*, *Bremen*, and *Hamburg*, each having a small surrounding territory belonging to it, and a vote in the general assembly of the German princes; but they are united together in one vote in the Diet of the Confederation.

LUBECK is situated between Holstein and Mecklenburg, on the banks of the Trave, which falls into the Baltic, about eight miles below the town. It was built in the 12th century, and was soon afterwards endowed with several privileges by the reigning Duke of Saxony. Lubeck was declared a free city of the empire in 1220, and entered into a treaty with Hamburg, which laid the foundation of the Hanseatic League, in 1241. This treaty, though since modified, subsists between Lubeck, Hamburg, and Bremen, to the present time. When the retreat of General Blucher was cut off, subsequently to the battle of Jena, he marched to Lubeck, and made a strong resistance before he surrendered. This caused the city to fall into the hands of the French, and it was annexed to their dominions in

1810; but was again declared free by the Congress at Vienna, and comprised in the Germanic Confederation.

The town of Lubeck stands on an eminence, and is clean and cheerful. It is surrounded by walls which have been converted into public walks, and are shaded by trees. The town itself possesses more regularity than many of the old towns of Germany. The houses are chiefly built of stone, and there are several wide streets. Lubeck was once a bishop's see, and has still a cathedral with several churches, of which St. Mary's is the most noted. It is a large and elegant structure; distinguished for its allegorical paintings, called *the dance of death*; a curious astronomical clock; a noble organ; and many handsome monuments. Among the other public edifices of Lubeck, is the council-house, a neat old Gothic building, in the hall of which the deputies of the Hans Towns met in the early ages of that celebrated league. Previously to its surrender to the French, in 1806, the military works were of great strength, but they have been demolished, and the moat that surrounded the town filled up.

During the early period of its freedom, the small territory of Lubeck included several detached parts, which have since been exchanged for others contiguous to the city, and though comparatively small, their possession is of great importance, as it opens a free intercourse with the port near the mouth of the river, where ships drawing more than ten feet water are obliged to unload part of their cargoes. *Travemunde* is therefore the port of Lubeck, and is near the mouth of the river. The whole extent of the territory belonging to this city, is about 118 square miles, and the population embraces 40,650 individuals, with an annual revenue of £37,000.

Lubeck is not particularly noted for manufactures; yet they are multifarious, though upon a small scale. Among them are woollens, cottons, silk, tobacco, soap, starch, white-lead, copper, and brass wire. Its trade has been increased by its situation, which gives it an easy access to the Baltic, and a ready intercourse with the interior of the country, both by land and water. The freedom of the city and its prominence in the Hanseatic league, also promoted the same object. The trade consists principally in the export of corn and other articles of produce, from the adjacent country, and in the importation of wine from France, with manufactured goods and colonial produce from England; but these are not in large quantities, in consequence of its vicinity to Hamburg. Lubeck has given birth to several men of eminence, particularly to *Mosheim*, the well known writer of ecclesiastical history, and *Sir Godfrey Kneller*, the celebrated painter.

FRANKFORT ON THE MAINE is one of the principal cities in Germany, in consequence of its commercial transactions, and its more extensive connexions with most other parts of Europe, as well as being the permanent seat of the Germanic Diet. It is situated on both banks of the Maine, about twenty miles above its confluence with the Rhine, and possesses a territory of 110 square miles, stretching from east to west, along the right bank of the river, with a population of nearly 52,000 inhabitants. About 45,000 belong to the city; and 7000 inhabit the adjacent district, which contains two market-towns, and five villages. A stone bridge crosses the Maine and unites the two parts of the town. Most of the fortifications have been destroyed, and the spaces laid out in gardens and promenades. Many of the houses in Frankfort are built of wood, but several of the streets are wide, and some of the squares spacious. It contains many good buildings, among which are the present and former residences of the electors, princes, and counts, of the empire. Nearly twenty churches adorn the town, and some of them are handsome structures. Frankfort was long one of the literary foci of Germany, but this distinction has been transferred to Leipsic. It is still a kind of central

point with travellers, as the great roads to almost all parts of that extensive country lead through it. But its principal distinction arises from its commercial activity, to which both its local circumstances and its annual fairs greatly contribute. The Maine and the Rhine give it an extensive communication with other regions, and render it the general depôt for their produce, and the magazine from which their wants can be supplied with the manufactures of foreign nations, and the products of distant regions. Its two great annual fairs are held in spring and autumn. Each continues three weeks, and is frequented by merchants from all parts of Europe. The inhabitants of Frankfort embrace persons of all religious persuasions. The Jews amount to about 9000, and were formerly confined to one quarter of the town, in which they were always shut up at night. They are now allowed to inhabit other parts, but do not enjoy the same freedom as in many other German cities. All other religions are equally protected by the laws, from which the final appeal is to the German Diet.

BREMEN stands on the Weser, about forty-five miles from the sea, and includes a small territory, which is enclosed in the kingdom of Hanover. It was one of the early and principal members of the Hanseatic league. Bremen was taken by the French, in 1806, and annexed to their empire, in 1810, as the chief place in the department of the mouth of the Weser. The town is, in general, well-built, and the principal street very long. The edifices that attract most notice are the cathedral, the exchange, and the town-house. There is also a celebrated academy which was established in 1529. The trade of Bremen consists in its manufactures of refined sugar, cottons, woollens, dye-stuffs, and some other articles. It exports the produce of the adjacent parts of the country, and supplies it with various foreign commodities.

The maritime commerce of Bremen is extensive, though only small vessels can come up to the town. Those of larger burden, load and unload at *Veegesack*, about thirteen miles below Bremen. About 900 vessels, of every size, enter the port annually, from all quarters. The whole extent of these territories is about 75 square miles, and their population 48,500 individuals. Bremen furnishes a contingent of 485 men to the army of Germany, and possesses an annual revenue of nearly £40,000.

HAMBURG is one of the most noted commercial cities in Europe. It is situated on the right bank of the Elbe, on the borders of Holstein, near the place where that river opens into a spacious estuary. Like the other free towns, it possesses a small surrounding territory, and forms one of the independent states of the Germanic Confederation. Here the river Alster flows into the Elbe, and insulates a part of the town. Hamburg was founded in the reign of Charlemagne, and its favourable situation for commercial purposes, soon increased its population and importance. In 1241 it entered into a treaty with Lubeck for the mutual protection of their rights and commerce, and these being afterwards joined by other towns, laid the foundation of the Hanseatic league. During the early periods of its history, Hamburg was subject to the kings of Denmark, as Dukes of Holstein. In 1618, it was admitted into the number of imperial towns, but it did not enjoy complete freedom, till 1768, when the Danish monarchy renounced all claims to its sovereignty, and Hamburg was ranked among the independent cities of the German empire. Its wealth and commerce progressively increased, and it was little affected by the agitations that shook the surrounding countries, till it was occupied by a large French garrison, in 1806, and a great part of its funds appropriated by Buonaparte to the support of his army. Four years afterwards it was annexed to the French empire, as the chief place in the department of the Mouths of the Elbe. From that time to its final evacuation by the French, in 1814, commerce suffered

greatly by the prohibitory system. Before the French quitted the town, the Hamburgers experienced severely the effects of war and of French rapacity. The trees which ornamented the public walks were cut down, the houses on the ramparts were destroyed; immense quantities of merchandize were seized; and the bank plundered. A part of the funds of this last, however, was restored by the Bourbon government.—Such was the state of Hamburg when the Congress of Vienna gave it back its ancient privileges, as well as a vote in the general assembly of German states, and joined it with Frankfort, Lubeck, and Bremen, in a vote in the Diet.

HAMBURG covers a large space of ground, but is not an elegant town. Most of the houses are old, and the streets narrow and irregular, except along the Alster, where some of them are handsome. All the lower parts are intersected by water communications, which give it a resemblance to a Dutch town. The Alster is formed into two large basins, the one on the outside of the town, and the other on the inside, which serves as a harbour. An arm of the Elbe also forms two ports, the one for ships, and the other for boats. Nearly a third of the space within the walls is water. Few of the public buildings present any thing remarkable. It has sixteen churches, of which St. Michael's and St. Peter's are distinguished by their elegant spires, and that of St. Nicholas for its musical chimes. The exchange is a modern edifice, fitted up with elegance; and some of its hospitals also deserve notice, among its public buildings. The population of Hamburg has been subject to great fluctuation, and is now about 115,000; besides which, about 15,000 more reside within the limits of its territories. These include a small district, encompassing the city, the town and bailiwick of *Cuxhaven*, at the mouth of the Elbe, and some scattered villages in the Duchy of Holstein. The whole amounts to about 134 square miles, which, including customs and other emoluments, produce an annual revenue of more than £100,000. The army supported by the Hamburgers, is about 1800 men; but their contingent to the German forces is only 1298.

Hamburg was long distinguished for its manufactures, as well as for its mercantile transactions. Among these, brewing and sugar-refining were the most prominent. During the early part of the last century, there was nearly 300 houses engaged in the refining of sugar. It is still carried on, but not upon so large a scale. The printing of cottons and of linens, also employ several hundreds of persons. Dye-works are numerous; and silk stuffs, gold and silver lace, stockings, sail-cloth, soap, jewellery, and other articles, are made in small quantities. But it is in its mercantile character that Hamburg is most distinguished; and this arises chiefly from the extent of its communication with the interior of Germany. The navigation of the Elbe, extends from the sea to the confines of Bohemia, and is of great importance to the commerce of Hamburg. This place has, therefore, become a grand emporium for the various commodities of England, France, Spain, Portugal, the Netherlands, the West Indies, and the United States of America. These are exchanged for the productions and manufactures of all the northern parts of Germany, and even for those of many districts in the centre, and the south. Linen and thread are brought in great quantities from Bohemia, Moravia, Silesia, lower Saxony, and Westphalia. The trade in timber from the Baltic is extensive. The other articles are numerous. Among them are flax, hemp, potash, pitch, tar, tobacco, wax, honey, hides, wool, woollen yarn, dried provisions, mineral products, and metallic wares. The number of ships that entered Hamburg in 1817, was 1640, but this was less than the average amount, and the annual number is now estimated at 2000.

STATISTICAL AND SYNOPTICAL TABLES.

Latitudes and Longitudes of the principal places in the Minor States of the GERMANIC CONFEDERATION.

The Latitudes are all *North*, and the Longitudes all *East*, from the first meridian of Great Britain.

Names of Places.—State.		Latitude.			Longitude.			Names of Places.—State.		Latitude.			Longitude.		
		°	'	"	°	'	"			°	'	"	°	'	"
Altenberg	Saxe-Gotha	52	59	0	12	22	0	Heilbron	K. Württemberg	49	7	48	9	8	45
Altorf	K. Bavaria	49	23	0	11	20	0	Helmstadt	D. Brunswick	52	13	0	10	59	0
Anspach.....	ditto....	48	12	0	10	33	0	Hildersheim	K. Hanover	52	9	31	9	55	38
Bamberg	ditto....	49	36	0	10	35	0	Homburg	Hesse-Homburg	50	15	0	8	32	0
Bautzen.....	K. Saxony	51	10	0	14	27	0	Hoya	K. Hanover	52	48	0	9	12	0
Bentheim	K. Hanover	52	20	0	7	5	0	Idstein	G. D. Nassau	50	12	0	8	12	0
Bernburg.....	Anhalt	51	50	0	11	52	0	Jena	Saxe-Weimar	50	56	28	11	37	15
Blankenburg	D. Brunswick	51	48	0	10	57	0	Kempten.....	K. Bavaria	47	44	10	10	18	45
Bremen	Free City	53	4	45	8	48	3	Köthen	Anhalt Köthen	51	47	0	12	4	0
Brunswick	D. Brunswick	52	15	43	10	29	30	Landshut	K. Bavaria	48	30	40	12	6	55
Calw	K. Württemberg	48	47	0	8	60	0	Leipsie	K. Saxony	51	20	16	12	21	45
Carlsruhe	G. D. Baden	48	59	51	8	20	45	Lubeck	Free City	53	51	18	10	50	0
Cassel.....	Hesse-Cassel	51	19	20	9	35	18	Lüneburg	K. Hanover	53	16	0	10	31	0
Chemnitz	K. Saxony	50	45	0	12	50	0	Marburg	Hesse-Cassel	50	54	0	8	45	0
Clausthall	K. Hanover	51	48	30	10	20	32	Memmingen	K. Bavaria	47	59	40	10	10	15
Coburg	Saxe-Coburg	50	15	18	10	58	0	Mentz.....	Hesse-Darmstadt	49	59	50	8	11	0
Constance.....	G. D. Baden	47	36	10	9	8	15	MUNICH	K. Bavaria	48	8	19	11	35	15
Corbach	C. Waldeck	51	16	0	8	54	0	Nassau.....	G. D. Nassau	50	18	0	7	42	0
Darmstadt.....	Hesse-Darmstadt	49	53	37	8	43	49	Neustadt	G. D. Saxe-Weimar	50	44	34	12	5	10
Dessau	Anhalt	51	50	6	12	17	1	Oldenburg.....	G. D. Oldenburg	53	8	20	8	11	16
Detmold	Lippe-Detmold	51	53	0	8	45	0	Osnaburg	K. Hanover	52	16	32	8	1	11
Diepholtz	K. Hanover	52	36	30	8	21	1	Osterode	ditto...	51	44	15	10	16	54
Dillenburg	G. D. Nassau	50	45	0	8	22	0	Passau	K. Bavaria	48	36	3	13	25	7
Dillengen	K. Bavaria	48	34	33	10	30	29	Rastadt.....	G. D. Baden	48	54	0	8	14	0
DRESDEN	K. Saxony	51	2	50	13	43	1	Ratisbon	K. Bavaria	49	0	53	12	4	30
Durlach.....	G. D. Baden	48	39	0	8	31	0	Rostock.....	Meck. Schwerin	54	8	0	12	15	0
Eichstadt	K. Bavaria	48	53	30	11	10	56	Rotweil.....	K. Württemberg	48	5	0	8	30	0
Eimbeck	K. Hanover	51	44	0	9	49	0	Schmalkalden.....	Hesse-Cassel	50	40	0	10	55	0
Eisenach	G. D. Saxe-Weimar	50	58	55	10	20	15	Schwerin	Meck. Schwerin	53	40	0	11	30	0
Elwangen.....	K. Württemberg	48	57	0	10	12	0	Selters	G. D. Nassau	49	55	0	8	20	0
Emden.....	K. Hanover	53	22	3	7	11	1	Strelitz	Meck. Strelitz	53	20	0	13	25	0
Frankfort	Free City	50	7	29	8	36	0	STUTGARD.....	K. Württemberg	48	46	15	9	11	0
Freyburg	G. D. Baden	48	0	0	7	57	0	Tubingen... ..	ditto...	48	31	10	9	3	25
Freyburg	K. Saxony	50	55	0	13	14	0	Ulm	ditto...	48	23	20	9	59	6
Fritzlar	Hesse-Cassel	50	8	0	9	13	0	Verden.....	K. Hanover	53	10	0	9	0	0
Fulda	ditto....	50	33	57	9	44	0	Weimar.....	G. D. Saxe-Weimar	51	6	0	11	52	0
Giessen.....	Hesse-Darmstadt	50	25	0	8	43	0	Wismar.....	Meck. Schwerin	53	55	0	11	30	0
Goslar	K. Hanover	51	3	0	10	31	0	Wolfenbüttele	D. Brunswick	52	10	0	10	45	0
Gotha	Saxe-Gotha	50	47	4	10	42	53	Worms	Hesse-Darmstadt	49	32	0	8	29	0
Göttingen	K. Hanover	51	31	54	9	55	15	Wurtzburg.....	K. Bavaria	49	46	0	10	13	0
Hall	K. Württemberg	49	6	0	9	50	0	Zuickau.....	K. Saxony	50	40	0	12	26	0
Hamburg.....	Free City	53	32	51	9	58	35								
Hanau	Hesse-Cassel	50	9	0	8	59	0								
HANOVER	K. Hanover	52	22	25	9	42	51								
Heidelberg	G. D. Baden	49	24	43	8	41	38								

MONIES, WEIGHTS, MEASURES, AND EXCHANGES

OF THE

SMALLER KINGDOMS AND STATES OF GERMANY.

MONIES.

The variety of monies, weights, and measures of Germany, have always been subjects of great perplexity to travellers and geographers, as well as great impediments to its commercial transactions. They have been much simplified by the late reduction in the number of its states, but are still so numerous and diversified as to render selection necessary. The following list, therefore, contains only the principal places; and are restricted to *Augsburg*, the chief commercial place in the kingdom of Bavaria, the three free cities of *Bremen*, *Frankfort*, and *Hamburg*, with *Hanover* as the principal place in that kingdom.

Monies of Account.

AUGSBURG.

Accounts are kept at Augsburg in *Florins*, which are also called *Gilders* or *Guldens*. The division and value of which are according to the present ratio of exchange.

4 Pfennings	are equal to 1 Creutzer	equal to 0	0 $\frac{1}{2}$
4 Creutzers	—	1 Batzen	— 0 1 $\frac{1}{2}$
15 Batzen, or 60 Creutzers	1 Florin	—	2 0
1 $\frac{1}{2}$ Florins	—	1 Rixthaler	— 3 0

Accounts are also expressed in *Gize*, or *Current*; the former is always 27 per cent. better than the latter.

BREMEN.

The merchants at Bremen keep their accounts in *Rix-dollars*, or *Thalers*, which are divided in *Grotes* and *Schwaren*.

4 Schwaren	are equal to 1 Grote,	equal to 0	0 $\frac{1}{2}$
72 Grotes	.....	1 Rixthaler	.... 3 2
5 Rixthalers, or Rixdol.	1 Louis d'or	....	16 3
Also			
3 Flinrichs	.....	1 Copstick	.... 0 6 $\frac{1}{2}$
6 Copsticks	.....	1 Rixthaler	.... 3 3

FRANKFORT.

Accounts as kept at Frankfort, answer for most of the surrounding districts. These are in *Rixthalers*, or *Florins*, which are thus divided.

4 Pfennings	are equal to 1 Creutzer,	equal to 0	0 $\frac{1}{2}$
60 Creutzers	.....	1 Florin, or Gulden	... 2 0
90 Creutzers	... ..	1 Rixthaler Ex. money	3 0
2 Florins	.....	1 Rixdollar Specie	... 4 0

The *Rixdollar*, or *Rixthaler* of account, is also divided differently.

2 Albusen	are 1 Batzen,	equal to 0	1 $\frac{1}{2}$
5 Batzen	.....	1 Copstick	.... 0 8
3 Copsticks	.....	1 Florin	.... 2 0
1 $\frac{1}{2}$ Florin	.....	1 Rixdollar	.... 3 0

HAMBURG.

Hamburg merchants usually keep their accounts in *Marks*, *Schillings*, and *Pfennings* *Lubs*. The latter appellation signifying Hamburg money, to distinguish it from Danish and others.

12 Pfennings	are equal to 1 Schilling,	equal to 0	1 $\frac{1}{12}$
16 Schillings	.....	1 Mark	.... 1 5 $\frac{1}{2}$

Flemish money is also sometimes used, and then two *Grotes* or *Pence* are equal to one *Schilling*, and 23 *Flem. Schillings* are one *Mark*.

The money of account at Hamburg, includes different kinds. The principal are *Banco* and *Currency*. The first implies sums lodged in the Bank, and transferred from one person to another; the latter includes the current coins, in which all common transactions and minor accounts are settled.

Coins.

Gold.

Intrinsic value.

		s.	d.
Ducat equal to 4 Flo. 15 Creut. Cur.	equal to	9	4 $\frac{1}{2}$
Gilder 3 Florins Current	... ..	6	7 $\frac{1}{2}$
Silver.			
Rixdollar .. 2 Flo. 12 Creut. Cur.	.....	4	7 $\frac{1}{2}$
Florin 60 Creutzers	... ..	2	1 $\frac{1}{2}$
Copstick ... 20 Creutzers	... ..	0	8 $\frac{1}{2}$

With smaller pieces in proportion.

BREMEN.

Gold.

Ducat	equal to 24 Rixthalers	Cur. equal	8	3 $\frac{1}{2}$
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Silver.

Rixdollar specie.....	14 Rixdollars	Cur.....	4	2 $\frac{1}{2}$
Copstick	3 Flinrick.....	0	8 $\frac{1}{2}$
Flinrick	.....	.....	9	2 $\frac{1}{2}$

Other smaller pieces in proportion, and *Schwaren*, in copper, equal to $\frac{19}{135}$, or nearly $\frac{1}{4}$ th of an English penny.

FRANKFORT.

Gold.

Ducat	9	4 $\frac{1}{2}$
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Silver.

Rixdollar	4	2 $\frac{1}{2}$
Half ditto	2	1 $\frac{1}{2}$
Quarter ditto	1	0 $\frac{1}{2}$

Copstick, $\frac{1}{6}$ Rixdollar specie	0	7 $\frac{1}{2}$
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The copper coins are *Hellers*, 20 of which are equal to about a penny English.

HAMBURG.

Gold.

		£	s.	d.
Portugaleese, equal to 10 Ducats	.....	4	13	9 $\frac{1}{2}$
Half ditto	.....	5	ditto	2 6 10
Quarter ditto	.....	2 $\frac{1}{2}$	ditto	1 3 5 $\frac{1}{2}$
Ducat	.....	6	Marks Banco	0 9 4 $\frac{1}{2}$

The *Portugaleese*, with its half and quarter, are little employed in Commerce.

Silver.

Rixdollar specie, equal 3 Marks specie	4	7 $\frac{1}{2}$
Mark 16 Schillings	1	2 $\frac{1}{2}$
Piece of 8 Schillings	0	7
Piece of 4 ditto	0	4

There are also various other coins of smaller values.

There are also various other coins of smaller values.

Besides the coins which are strictly those of the city, a great variety of foreign coins are in common circulation at Hamburg. Among the gold coins most frequently met with are,

Spanish Pistoles
Prussian Fredericks
Hanoverian George d'ors
Brunswick Carl d'ors
Saxon August d'ors.

The silver coins of the same places, with those of various others, are likewise common.

HANOVER.

Accounts are kept here in Rixthalers, Mariengroschen, and Pfennings. The Good Grosche and the Florin are also sometimes used.

		s.	d.
3 Pfennings	are equal to 1 Marien Grosche,	equal 0	0½
1½ Mar. Groschen	.... 1 Good Grosche	.... 0	1
24 Mar. Groschen	.... 1 Florin	.... 2	0
36 ditto	.... 1 Rixthaler	.... 3	0

HANOVER.

Gold.	s.	d.
George d'or	15	6
Ducat	9	4
Gilder or Florin	7	0
Half ditto	3	6
Double ditto	14	0

Silver.	s.	d.
Rixdollar, equal 48 Mar. Groschen	4	8
Florin, or piece of two-thirds, <i>fine</i>	2	4
Half Florin, or piece of one-third	1	1½
Quarter, or piece of six good groschen	0	6½
Florin, or piece of two-thirds, <i>base</i>	2	3½

Besides a number of smaller silver pieces, there are *copper* coins of 3, 2, and 1 Pfennig, which are equal to about $\frac{2}{32}$ d., $\frac{1}{32}$ d., and $\frac{1}{32}$ d.

COMMON WEIGHTS.

AUGSBURG.

Gold and Silver Weight.

		Eng. grains.
4 Pennyweights	are equal 1 Quintin, equal to	56.921375
4 Quintins	.... 1 Loth	227.6875
16 Loths	.... 1 Mark	3643

Commercial Weight.

	Avoir. lbs.
24 lbs. are equal to	25
100 lbs. are one Centner	101½

BREMEN

Gold and Silver Weight.

		Eng. grains.
2 Pfennings	are equal 1 Quint	equal to 28.1375
4 Quints	.... 1 Loth	112.75
2 Loths	.... 1 Ounce	225.5
16 Ounces	.... 1 Mark	3608

Commercial Weight.

		Avoir. lbs.
2 Loths	are equal to 1 Ounce, equal to	0.0675
8 Ounces	.... 1 Mark	0.55
2 Marks	.... 1 Pound	1.1
10 Pounds	.... 1 Stone of wool	11
14 lbs.	.... 1 Lispound	15.4
20 lbs.	.... 1 Stone of Flax	22
116 lbs.	.... 1 Centner	127.6
120 lbs.	.... 1 Waag of Iron	132
220 lbs. 2½ Centners	1 Shippound	319
300 lbs.	.... 1 Load	330

FRANKFORT.

Commercial Weight.

		Avoir. lbs.
4 Quints	are equal to 1 Loth, equal to	0.038906
16 Loths	.... 1 Mark	0.6225
2 Marks	.... 1 Pound	1.245
22 lbs.	.... 1 Stone	27.39
100 lbs.	.... 1 Centner	124.5

Note.—The gold and silver weight, both here, at Hamburg, and Hanover, is the same as at Bremen.

HAMBURG.

Commercial Weight.

		Avoir. lbs.
4 Quintins	are equal to 1 Loth, equal to	0.03337375
2 Loths	.... 1 Ounce	0.0667475
8 Ounces	.... 1 Mark	0.53393
2 Marks	.... 1 Pound	1.06796
10 lbs.	.... 1 St of wool or fea.	10.6796
14 lbs.	.... 1 Lispound	14.9514
20 lbs.	.... 1 Stone of flax	21.3592
112 lbs.	.... 1 Centner	119.61165
20 Lispds. or 2½ Centn.	1 Shippound	299.029125
224 lbs.	.... 1 Tonne of butter	239.2233

HANOVER.

Commercial Weight.

The weights of Hanover are similar, both in division and value, to those of Hamburg.

COMMON MEASURES.

AUGSBURG.

Corn Measure.

		Win. Bushel.
4 Maassels	are equal to 1 Viertel, equal to	20.25
4 Viertels	.... 1 Metze	81
8 Metzen	.... 1 Schaff	6.48

Liquid Measure.

		Wine Gallons.
8 Maasses	are 1 Beson, equal to	2.56
6 Beson	... 1 Muide	15.36
2 Muiden	... 1 Jez	30.72
3 Jez	... 1 Fuder	245.76
A Faas of beer, is 13 English beer gallons.		

Long Measure.

		Eng. Feet.
12 Inches	are 1 Foot, equal to	0.97125
2 Feet..	... 1 Short ell	1.9425
	A long ell	2

The short ell is used for linens, and the long ell for other things.

BREMEN.

Corn Measure.

		Win. Bushels.
4 Spints	are equal to 1 Viertel, equal to	0.505
4 Viertels	.... 1 Scheffel	2.02
10 Scheffels	.... 1 Quart	20.2
4 Quarts	.... 1 Last	80.8

Liquid Measure.

		Wine Gallons.
4 Mingels	are equal to 1 Quart, equal to	0.18678
4 Quarts	.... 1 Stubgen	0.7481
2½ Stubgens	.... 1 Viertel	1.933
20 Viertels	.... 1 Ohm	381
30 Viertels	.... 1 Hoghead	58
6 Ohms	.... 1 Fuder	232

Long Measure.

		Eng. Feet.
12 Inches	are 1 Foot, equal to	0.95
2 Feet..	..... 1 Ell	1.9
6 Feet ..	..... 1 Clafter	5.7
16 Feet.....	1 Ruthe	15.2

FRANKFORT.

Corn Measure.

	Win. Bushels.
4 Sechters are 1 Metze, equal to	0.4594
2 Metzen 1 Simmer	0.9188
4 Simmers 1 Malter	31

Liquid Measure.

	Wine Gallons.
4 Maasses are 1 Quart, equal to	1.95
20 Quarts 1 Ohm	39
5 Ohms 1 Fuder	195
1½ Fuders ... 1 Stuck	292.5

Long Measure.

	Eng. Feet.
The Foot, is equal to	9375
The Ell	176875

HAMBURG.

Corn Measure.

Wheat and Rye.	Win. Bushels.
2 Himtens are 1 Fass, equal to	1.5
2 Fasses 1 Scheffel	3
10 Scheffels 1 Wispel	30
2 Wispels 1 Last	60
Oats and Barley.	
3 Fasses 1 Scheffel	4.5
10 Scheffels 1 Wispel	45
2 Wispels..... 1 Last	90

Liquid Measure.

	Wine gallons.
2 Oessels are 1 Quartier, equal to	25908
4 Quartiers ... 1 Stubgen	95633
2 Stubgen ... 1 Viertel	190266
4 Viertels ... 1 Eimer	76506
5 Viertels ... 1 Anker	95833
4 Ankers 1 Ohm	38½
6 Ohms..... 1 Fuder	230
60 Stubgen..... 1 Oxhoft of Brandy ..	5738
63 ditto 1 Oxhoft of French wine ..	10249
100 ditto 1 Pipe of Spanish wine ..	95633
43 ditto 1 Tonne of Beer	45904

A Barrel of Whale oil, is 32

Long Measure.

	Eng. Feet.
12 Inches } are 1 Foot, equal to	94075
3 Palms }	18315
2 Feet 1 Ell	56445
6 Feet 1 Crafter or Fathom ..	131705
14 Feet 1 Short Ruthe	15052
16 Feet 1 Long Ruthe	

The Rhineland foot is used by Engineers and Surveyors and is equal to $12\frac{11}{30}$ English inches. The Rhineland Ruthe is 12 Rhineland feet, or $12\frac{11}{30}$ English feet.

Superficial Measure.

9 Hamb. square feet are nearly equal to	8 Eng. ft.
16 Rhineland feet are rather more than	17 Eng. ft.
A Scheffel of land is about 1 acre 6 perches.	
A Morgen 2 acres of ½ perches.	

HANOVER.

Corn Measure.

	Win. Bushel.
3 Metzers are 1 Himten, equal to	33721
6 Himtens 1 Malter	530336
8 Malters 1 Wispel	12418608
2 Wispels 1 Last	81357216

Liquid Measure.

	Wine gallons.
2 Nossels 1 Quartier, equal to	025694
2 Quartiers ... 1 Kannen	051333
2 Kannens ... 1 Stubgen	10277
10 Stubgen 1 Anker	10277
4 Ankers 1 Ohm	41½
2½ Ohms 1 Eimer	10275
6 Ohms 1 Fuder	2466

Long Measure.

	Eng. Feet.
12 Inches 1 Foot, equal to	93454
2 Feet 1 Ell	190808
3 Ells 1 Clafter	572424
16 Feet 1 Ruthe	1526164

Square Measure.

The square foot is equal 131½ Eng. square inches.	
The square Ruthe..... 25½ Eng. square yards.	
60 Ruthes are 1 Vorling.. 1 Rood 11½ perches.	
2 Vorlins .. 1 Morgen 2 Roods 2½ perches.	

EXCHANGES.

The following are the present rates of exchanges between some of the principal commercial places in Germany and other parts of Europe.

BREMEN.

Exchanges with the following Places: viz.

Amsterdam at	130 Rixthalers for 250 Florins
Augsburg	108 100 Rixthalers curr.
Berlin	113 100 Rixthalers curr.
Frankfort	108 100 Rixthalers curr.
Hamburg	138 300 Marks banco
Leipsic	108 100 Rixdollars
London	612 £100 Sterling
Paris	17 Grotes .. 1 Franc
Vienna	107 Rixthalers 100 Rixthalers curr.

FRANKFORT ON THE MAINE.

Exchanges with the following Places: viz.

Amsterdam, at	140 Rixthalers for 100 Rixthalers curr.
Augsburg	98 100 Guilders current.
Bremen	108 Rixthalers 100 ditto
Hamburg	118 100 ditto
Leipsic	99 100 ditto
London	150 Batz. ex. mon. £1 Sterling
Paris	79 Rixthalers 300 Francs
Vienna	99½ Guilders 100 Guilders

HAMBURG.

Exchanges with the following Places: viz.

Amsterdam, at 106	Florins current for 120 Marks banco.
Augsburg 118½	ditto 100 Rthls. banco
Cadiz 89	Grotes Flemish 1 Ducat of Exc.
Copenhagen .. 281	Dollars 300 Marks banco
Frankfort 149	Florins ditto
Genoa 80	Grotes flem. ex. mon. 1 Peso of 3 reals
Leghorn 37	ditto 1 ditto
Leipsic 148	ditto 1 ditto
Lisbon 38½	Grotes flemish 1 Crusade
London 37	Shillings flemish £1 Sterling
Paris 25½	Shillings banco 3 Francs
Prague..... 204	Florins current 200 Marks banco
Venice 4	Lire piccolo 1 Mark banco
Vienna 148	Florins effective 100 Dollars banco

LEIPSIC.

Amsterdam, at 140	Rixthalers cur. for 100 Rthls. banco
Augsburg Ct. 100½	for 100
Berlin... Ct. 104	for 100
Frankfort 99½	ditto Ex. money 100 Rthls. banco
Hamburg 148½	ditto banco ditto
London 615	ditto £1 Sterling
Paris 79	ditto 300 Francs
Vienna 78	ditto Effective 100 Rixthalers

SWITZERLAND.

CHAPTER I.

Name—Situation—Boundaries—Extent—Population—Original Inhabitants—Progressive Geography—Present Division, and Distribution of the Inhabitants.

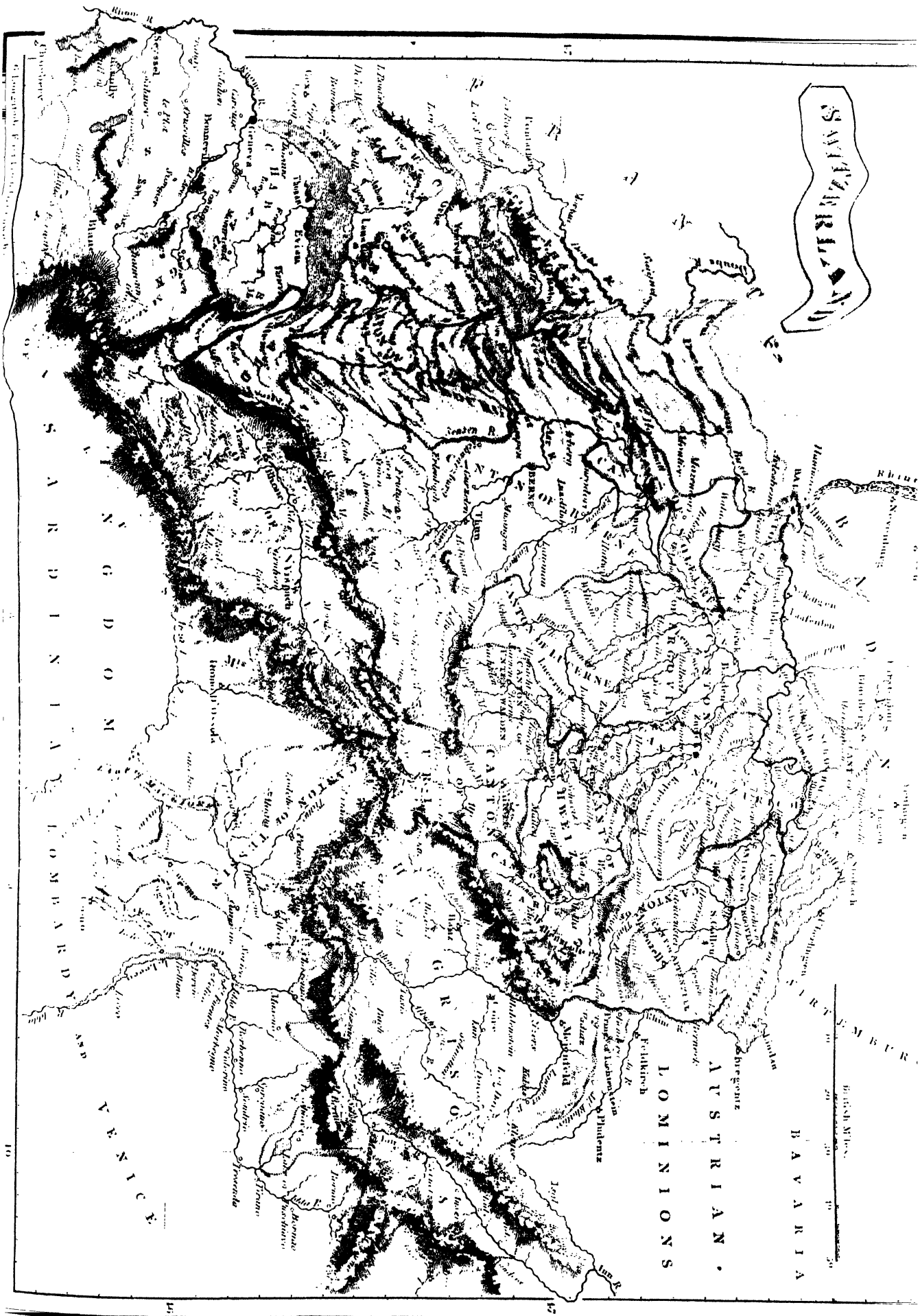
THE federative Provinces to which the NAME of Switzerland is now applied, were long known by different appellations. The Romans considered this country as a part of ancient Gaul. Its western regions were afterwards included in *Burgundia*; and the inhabitants, in reference to France, were styled *Burgundia trans Jurenses*, as being situated beyond the mountains of Jura. The name SWITZERLAND was first used in the beginning of the fourteenth century, and was either derived from the canton of *Schweitz*, which took so distinguished a part in the revolution, or from the term Schweitzers, given by the Austrians to this brave Alpine people.

Switzerland is comprised between the 45th and 48th degrees of latitude, and between 5 and 11 degrees of east longitude. It is BOUNDED on the north by Germany; on the west by France; and on the south and east by Italy. It stretches through about 200 English miles from east to west, and 130 from north to south. The superficial extent, including the recent territorial acquisitions, is 19,000 English square miles, and the population 1,750,000, or nearly 91 persons to each square mile. The difference between this number, and that stated at page 16, arises from a later enumeration, and the subsequent accessions being included.

When the Romans first became acquainted with Switzerland, it was possessed by two distinct tribes of people; the *Rhæti*, on the east, and the *Helvetii*, on the west. Some writers have ascribed them to a Celtic, and others to a Gothic, origin. From the analogy of their language and customs, the Helvetii seem to have sprung from an ancient colony of Germans; but the Rhæti are generally considered as having been of Italian descent. These were, subsequently, augmented by Germans, Italians, and Gauls, as freedom reigned in one country, or oppression in another, till the revolution of ages amalgamated them into the brave and hardy Swiss, and assimilated them to the singular and interesting region they inhabit.

Much of the country was anciently divided into lordships and small principalities, many of which afterwards centred in the House of Hapsburg. But when the Counts of this house were called to fill the throne of Austria, and subsequently to wear the imperial crown of Germany, the tyranny exercised by their governors in Switzerland caused the Swiss to revolt, and contend with that power for their independence. The conduct of the German governor, *Gessler*, and the patriotism of *William Tell*, which laid the foundation of this revolt, are too generally known to need description. On this occasion the three cantons of *Uri*, *Schweitz*, and *Underwalden*, in 1308, entered into a league for mutual defence, which was acceded to by *Lucern*, in 1332; by *Zurich*, in 1351; by *Glarus* and *Zug*, in 1352;

SWITZERLAND



BAVARIA

AUSTRIAN

LOMBARD

PIEMONTE

VAL D'AOSTA

ITALY

FRANCE

GERMANY

SAVONIA

FINLAND

RUSSIA

ARMENIA

GEORGIA

ARMENIA

ARMENIA

ARMENIA

and by *Bern*, in 1353. The struggle of the infant Swiss confederacy, against their powerful enemies, was successful; and the league was strengthened by the accession of *Friburg* and *Soleure*, in 1481. *Basle* and *Schaffhausen* joined the alliance in 1501; while *Appenzel*, the last of the thirteen cantons, gave additional strength to it, in 1513. In 1536, *Bern*, *Friburg*, and the *Valais*, conquered the *Pays de Vaud* from *Savoy*; and, in 1648, the independence of the Helvetic Republic was acknowledged at the peace of Westphalia. The French seized *Mulhausen*, and the bishopric of *Basle*, in 1793; and erected the *Pays de Vaud* into the Republic of *LEMAN*, in January, 1798. They also reduced *Bern*, and constituted the whole of Switzerland into the *Helvetic Republic*, in the April following. In the same year the freedom of the former constitution was annihilated, and *Geneva* became united to France. A new constitution was formed, and sanctioned by Buonaparte, in 1803. By this act the cantonal system of government was restored. The number of cantons was increased to 19, and a close alliance entered into with France, to which the *Valais* was annexed, in 1810. After having, for several years, participated in the general agitation of Europe, and experienced revolutions and counter-revolutions in its different provinces, peace re-visited Switzerland, when she returned to heal the wounds of bleeding Europe. Another constitution was then adopted at *Zurich*, and approved of by the Congress at *Vienna*. The integrity of the 19 cantons, as they constituted a political body at the time of the Convention, in 1813, was acknowledged as the basis of the system. The three new cantons of *Geneva*, *Neufchatel*, and the *Valais*, which were recovered from France, were added. The valley of *Dappts*, that formed part of the canton of *Vaud*, was united to *Neufchatel*. The bishoprick of *Basle*, and the town of *Bienne*, were annexed to the canton of *Bern*, with the exception of a small district of about three square leagues, which was joined to the canton of *Basle*, and another small *enclave*, near *Neufchatel*, was united, in full sovereignty, to that canton. Such has been the progress of this federative republic. Though small in numbers, and weak in resources, it has maintained its independence amidst the conflicts of contending interests and passions, while more powerful nations have sunk before the fury of the storm.

The following are the cantons that form the Swiss confederacy, and mutually guarantee their constitutions, their territories, and their independencies, with the population and chief towns of each. They are placed in the order in which they joined the league, viz.

Cantons.	Population.	Towns.	Cantons.	Population.	Towns.
1. <i>Schweitz</i>	31,000	<i>Schweitz</i> .	12. <i>Schaffhausen</i> . .	28,000	<i>Schaffhausen</i> .
2. <i>Uri</i>	18,000	<i>Altorf</i> .	13. <i>Appenzel</i>	50,000	<i>Appenzel</i> .
3. <i>Unterwalden</i> . .	21,000	<i>Stantz</i> .	14. <i>Grisons</i>	174,000	<i>Coire</i> .
4. <i>Lucern</i>	100,000	<i>Lucern</i> .	15. <i>Argovia</i>	135,000	<i>Argau</i> .
5. <i>Zurich</i>	182,000	<i>Zurich</i> .	16. <i>St. Gall</i>	134,000	<i>St. Gall</i> .
6. <i>Glarus</i>	20,000	<i>Glarus</i> .	17. <i>Thurgovia</i>	75,000	<i>Fraunfeld</i> .
7. <i>Zug</i>	14,000	<i>Zug</i> .	18. <i>Tessin</i>	140,000	<i>Bellinzona</i> .
8. <i>Bern</i>	232,000	<i>Bern</i> .	19. <i>Pas de Vaud</i> . .		<i>Lausanne</i> .
9. <i>Friburg</i>	80,000	<i>Friburg</i> .	20. <i>Geneva</i>	47,000	<i>Geneva</i> .
10. <i>Soleure</i>	48,000	<i>Soleure</i> .	21. <i>Neufchatel</i> . .	50,000	<i>Neufchatel</i> .
11. <i>Basle</i>	60,000	<i>Basle</i> .	22. <i>Valais</i>	110,000	<i>Sion</i> .

Much of this sublime country is lost to the industry of man. Its population is, therefore, confined within narrower limits than those indicated by the numbers that express its area. The towns are neither numerous nor large. Most of the inhabitants, indeed, live in villages and hamlets spread along the vallies, or elevated on the flanks of the mountains, where they often appear, in the perspective, like rocks that had rolled from the summit, but were arrested in their progress before they reached the base.

CHAPTER II

Outlines—General Surface—Mountains—Rivers—Lakes—Climate and Seasons—Soil—Culture—Products.

THE OUTLINES of this country are very irregular. In some places they follow the natural boundaries of rivers, lakes, and mountains ; in others, they are formed of arbitrary lines. On the north and north-east the Rhine and the lake of Constance, limit the Swiss cantons, except where Schaffhausen, and another small district, project beyond the right bank. On the south and south-east, the waving line of demarcation follows the grand ridge of the Alps. After winding among the crests of the mountains on the east, it descends to the borders of the Valteline, sweeps round the north of lake Como, crosses the upper end of the Maggiore, and ascends nearly to Mont St. Gothard. Thence it stretches to the south-west, passing the Simplon, Mont Rosa, and the great St. Bernard ; but, before reaching Mont Blanc, it bends to the north-west, and enters the lake of Geneva. Following that lake nearly to the city of the same name, and passing round its southern extremity, it afterwards pursues an arbitrary route on the west till it extends to the Rhine, below the city of Basle.

The GENERAL SURFACE of Switzerland exceeds, in rugged sublimity, any other portion of Europe. Nature seems to have formed every thing here on her grandest scale. Stupendous mountains, dreadful precipices, glaciers that resemble seas of ice, with rocks of every varied and fantastic shape, excite astonishment and inspire awe. These are frequently contrasted with the undulating wood, the vine-clad slope, and the verdant vale, with its rural cottages and crystal streams. Switzerland is Nature's domain, where man's puny works sink into insignificance, and the lover of the sublime is elevated into rapture. The following is a vivid sketch of the impressions made by the Swiss scenery on an ardent mind. " Having no definite conception of what we were to behold, we gazed on objects around us with doubt and a disbelief of our senses. I have often fancied that the unsubstantial visions of sleep were real, here I imagined that the substantial forms of things were visionary. For the first time in my life I beheld clouds floating beneath the summits of the Alps. It was noon, the heat was oppressive, yet we beheld these mountains covered with snow ; and that sun, whose intensity enfeebled, and almost drove us to the first shelter that might present itself, was resting on these beds of eternal ice, his rays apparently as powerless as those of the moon. When I gazed upon the wild and craggy summits of these mountains, towering above those clouds which are supposed, by the majority of our species, to be the limits of all that is earthly, when I looked from their summits to their base, and contemplated their stupendous and oppressive magnitude, I shrunk from the daring speculations of imagination, which would picture that period of mundane convulsion when these mountains were heaved into their imperishable forms."

Such are the scenes presented, and the emotions excited as we traverse the vales of this romantic country ; but when we ascend its rugged mountains sensations of a different description are produced. Every step almost conducts us to a new scene, every moment introduces us to a different climate, and with it, a fresh vegetation. So near are these rapid ascents that we can gaze at the same moment on the aloe and the fig of the torrid, and the rhododendron of the frigid, zones. Every

space of a few fathoms brings us into contact with new species of the animal kingdom. "In the morning we can pass a tract of country where nature languishes from excessive heat, and in the evening we may cross on foot the never-dissolving snows that surmount it. In a few hours we have thus experienced all the seasons, seen the productions of all climates; passed the whole range of vegetation, left even the last vestige of moss behind, and compared the birds of Italy with those of the northern lakes of both continents. In describing the higher Alps, M. *Ramond* observes, "one uniform carpet covers their icy labyrinths, from the proudest summits to the most unsearchable abyss; it is the livery of the eternal winter of the poles, a winding-sheet which enwraps the expiring earth. There the eye roves over a boundless scene of desolation, and the imagination easily pictures the genius of winter reposing amidst the chaos of unvivified nature."

This mountainous character, however, is not equally applicable to the whole of Switzerland. A more level tract stretches over a great part of the north and north-west, and reaches nearly from the lake of Geneva to that of Constance. Yet this is diversified in some parts by hills, that would be called mountains in other countries, as many of them exceed 2000 feet in height; while the scenery only loses its romantic character in comparison with the southern regions. This part of the country has a general inclination towards the north, as it is in that direction that almost all the rivers descend. Other regions incline either to the north-east or south-west, for it is towards these points that the Rhine and the Rhone, which rise near each other, struggle in their mountain courses.

The ranges of mountains generally run in nearly parallel chains from south-west to north-east, and indisputably confer upon Switzerland the distinction of being the highest country in Europe. This is sufficiently evinced by the numerous rivers that flow from it, while there is not one enters it in any direction. Distinct appellations have at all periods been conferred upon different parts of the Alps. The Maritime Alps rise immediately from the Gulf of Genoa. The Pennine Alps divide Switzerland from Italy, stretching from Mont Blanc along the south of the Rhone, and the north of Piedmont. The Rhaetian Alps extend through the country of the Grisons into Tyrol. The Helvetian Alps run nearly through the centre of Switzerland, including many of the celebrated peaks of that country, with the glaciers north of the further Rhine. Among these elevated points are the noble St. Gothard, the tremendous Shreekhorn, the towering Gallenstock, and others which are mentioned in CHAPTER V. of the INTRODUCTION.

The following are the principal passes across these mountain ridges, and though not all within the limits of Switzerland, they are given here for the sake of the connexion.

Col de Tende	5,884
Mont Cenis	6,773
Little St. Bernard	7,118
Great St. Bernard (8074, Saussure)	7,960
Col de la Seigne, otherwise called Col de l'Allée Blanche, the culminant point of the path which crosses the mountain four miles north-west of the Little Saint Bernard	7,898
Col du Mont Crevin	11,182
Le Simplon, the highest part of the road (Plan du Simplon),	6,574
Passage du Gries, the culminant point of the road, over the mountains between Sterzing and Innspruck, in the valley	7,815
Saint Gothard, in Switzerland	6,805
The Splugen, in the country of Grisons, the culminant point of the path over the mountains from Chiavenna to the Rhen Wald, or valley of the Rhine	6,313
The Brenner in Tyrol	4,657
Les Taures de Heiligen Blut	8,580
Les Taures de Radstadt (Radstadter tauern), five miles south of Radstadt, on the way from Salzburg to Willach	5,411
The Katschberger Pass	5,214

Many of these passes are the result of great ingenuity and labour; but that of the *Simplon* is the most complete specimen of the kind presented in any country. It was the project of a gigantic mind, and the work of consummate labour and skill, amidst scenes the most fascinating, and nature the most untamable. This magnificent pass was planned by Napoleon, to facilitate the march of troops and artillery to the states of Milan and Venice. Thousands of men were employed in its construction for three years, which they completed in the autumn of 1806. Between Gliss, in the valley of the Rhone, where the road commences, and Domo d'Ossola, in Piedmont, where it terminates, there are four forests of pine, upwards of thirty cascades, several glaciers, twenty-two bridges, and six covered galleries, excavated through the solid rock. By the skill and perseverance in completing these laborious undertakings, a difficult and dangerous pass, accessible only to foot passengers or mules, has been converted into a spacious road 24 feet in width, sometimes bounded on the lower side by a strong railing of larch, and at others defended by a parapet of granite; while small buildings are erected at short distances from each other, for the convenience of travellers, called houses of refuge. "The plain on the summit of the Simplon is spacious: no tree appears to break its cheerless and desolate character; the craggy rocks and glaciers are here frightfully naked: and above them is seen the Rosboden towering and unrivalled. The contrast between the Swiss and Italian sides of the Simplon cannot be more striking. On the side of Switzerland, variety, beauty, extensiveness, and sublimity, prevail: on that of Italy, the pass of the Alps is narrow, dark, sterile, and cheerless."

One distinguishing characteristic of the Swiss mountains is the GLACIERS, which resemble a stormy sea, suddenly congealed. Their thickness varies from one to six hundred feet, and they form inexhaustible sources to more numerous and important rivers than issue from any other country of Europe. The Rhine, the Rhone, the Po, the Inn, the Reuss, the Aar, the Limmat, the Thur, the Tesino, and others, proceed from these vast reservoirs, and roll their impetuous torrents into distant lands.

The RHINE has already been described in the GENERAL VIEW of EUROPE, but it is properly a Swiss river for more than 2000 miles of its devious course. It rises from a vast glacier in the country of the Grisons, on the summit of Mont Badur, situated at the head of the valley, denominated *Rhinewald*, which is about nine leagues in length, and stretching from the north of Mont St. Gothard towards the north-east. This stream is soon joined by another from the valley of Medelo, an appendage of that mountain; and their confluent waters are afterwards increased by a third stream, from the east, which is usually denominated the Upper Rhine. The Rhinewald is a solitary region, little visited even by the Swiss themselves. Its upper parts present vast deserts of ice and snow, through which the infant river foams and struggles, sometimes working its hidden way beneath arches of ice, at others descending over rocks of granite, and appearing to gain new strength from every opposing obstacle, and to acquire additional impetuosity from every fresh conquest. The heights of its sources exceed 6000 feet, which give it an impetus, sufficient to hurry its vast and accumulated waters over every impediment till it expands into a broader surface and a more placid stream in the lower districts through which it flows. Quitting the Rhinewald, it bends to the north, and pervades the lake of Constance, passes through that of Zell, and forms the northern boundary of the country, till it reaches Basle, shortly after which it winds again towards the north, and quits the rugged domains of Switzerland to roll its mountain torrent to the sea.

The RHONE has also its source in Switzerland, and is strictly a Swiss river for about 90 or 100 miles. The Valais is separated from the Canton of Uri by the

Fourche, an Alp which rises ten thousand feet above the level of the sea; and here the Rhone gushes from a stupendous glacier. This river sometimes moves through its towering barriers with great rapidity, at others its impetuous descent is that of a mighty torrent, while in many places the depth of the valley is indicated by its sluggish movements. The general rapidity of this river is strongly marked by a fall of three thousand feet before it reaches the lake of Geneva. The waters of the Rhone are augmented by an almost infinite number of tributary torrents and streams that descend from the sides of the adjacent mountains, till it rolls a large collected volume into the lake, from the opposite extremity of which it issues to join the Med terranean.

The AAR proceeds from several sources on the northern side of the Helvetic Alps. The glacier of Finsteraar, the Alp of Grimsel, and the summit of Schreckhorn, supply its principal tributary streams. It flows towards the north-west till it reaches Aarberg. Then, winding to the north-east, it receives the Reuss, and the Limmat, and falls into the Rhine above Waldshut, after having bathed the declivity on which the capital stands, and watered some of the most fertile parts of the country. The whole course of the Aar is about 150 miles.

The REUSS originates on the north-west of Mont St. Gothard, flows in a serpentine direction towards the north, intersecting several lakes in its passage, and subsequently pours its confluent waters into the Aar. Its course is about eighty English miles.

The LIMMAT is also a large river, formed by the union of two others, and watering the north-eastern regions of this country. Its first name is the *Linth*, which rises in the mountains north of the Rhine; but being afterwards joined by the *Mat*, from the more western flanks of the same mountainous region, it assumes the appellation of *Limmat*. After flowing about ten miles, it pervades the long and narrow lake of Zurich, and unites with the Aar, near the confluence of the Reuss.

Several other rapid rivers, and romantic streams, either hurry their translucent waters into the rivers already mentioned, or pass the frontiers to augment the stores of more distant receptacles.

The INN commences its majestic progress in the country of the Grisons, rolls its hasty stream to the north-east, and subsequently joins the Danube.

The ADDA descends the Valteline, in an opposite direction, and falls into the lake of Como. The TESINO enters the lake of Maggiore. Others increase the magnitude of the Rhine, the Rhone, the Aar, and the Reuss.

Switzerland is not less distinguished by the number, the variety, the beauty, and the magnitude of its LAKES, than by the celebrity of its mountains and rivers. The most extensive are the lakes of Constance and Geneva. Besides these there are the lakes of Neufchatel, Zurich, Zug, Lucern, Brientz, Thun, and numerous others that would be interesting in almost any situation except amidst the prodigal beauties of Switzerland.

The lake of CONSTANCE forms the boundary between Switzerland and Germany. Its length is about forty miles, and the breadth, in some places, fifteen. The greatest depth is about three hundred and fifty fathoms, and the medium about one hundred. The Germans call it the Boden Sea. The Upper lake stretches from Bregentz to Constance, where it is divided into two branches by a long tongue of land, that forms part of the Grand Duchy of Baden. Each of these includes a considerable island, a variety in which the body of the lake is deficient. The banks of this lake are fertile, well cultivated, and adorned with towns, villages, and castles. It abounds with fish, particularly red trouts, which are in great request in all parts of Germany.

The lake of GENEVA is situated at the south-west extremity of Switzerland,

which it separates from Savoy by a crescent of about 50 miles in length, and ten in breadth, winding round the high range of Alpine mountains that bounds it on the south. It is also called the lake of *Lausanne*, and often *Lac Lemán* by the French. It was the *Lacus Lemannus* of the Romans. Some authors, who have described the scenery of Italy, have imparted a kind of classical celebrity to the transalpine lakes; but that of Geneva is more magnificent, though perhaps less beautiful, than any of them, and derives a peculiar charm from the circumstances with which it is connected. It is the association between splendid talents and the lovely scenes of nature which gives such a peculiar interest to the vicinity of lake Lemán. It is, perhaps, impossible for the cultivated and contemplative mind to wander on the shores of this lake, and not feel that Lausanne and Gibbon, Copet and De Staël, Ferney and Voltaire, Geneva and Rousseau, are inseparable. Dignity, elegance, and loveliness seem combined; and we are involuntarily led to expect all those *deliciæ et elegantiae vitæ* which give such an inexpressible charm to polished society, and entwine themselves so inseparably with the view of scenes where they have once been enjoyed. Rousseau, with the feelings of a true disciple of nature, could exclaim "When my imagination is the most transported, it bears me to the delightful scenes of this lake: give me here an orchard, a true friend, an amiable wife, a cow, and a little boat, and my happiness would be completed!" But it should be remembered, that the *Pays de Vaud* was the residence of his father the birth-place of Madame de Warrens, and *la Patrie* of Mademoiselle de Vulson. of whom he says, "*qui y eut les prémices de mon cœur.*" This lake is 1230 feet above the level of the sea, and its greatest depth about 1000 feet. Its waters are beautifully transparent, and rise highest in summer, when they are augmented by the melting of the snows; but they never freeze during any part of the year. The surrounding scenery is magnificent, but the surface of the lake wants that beauty which is imparted by wooded and picturesque islands, of which it is destitute; and though sometimes agitated by storms, it is generally calm and unruffled.

The lake of NEUFCHÂTEL is situated north of Lausanne, and nearly parallel to the chain of Mont Jura, that stretches between it and France. It extends about 25 miles towards the north-east, but is not more than five in medial breadth. It is about 1320 feet above the level of the sea, and its waters are discharged through the small lake of Bienne into the Aar. It abounds with fish, but the boats that navigate it are frequently exposed to danger from the sudden storms by which it is agitated.—The lake of ZÜRICH is about the same length, but still narrower. The lake of LUCERN appears like an assemblage of distinct lakes, and its zigzag form gives it a diversified appearance. Its length exceeds 25 miles; but its breadth, in many places, is less than four. Its height above the sea is greater than that of most of the other lakes. Lucern is the largest and most romantic lake in the interior of Switzerland. Its banks do not present those works of art, or that luxuriance of vegetation, which are visible on the shores of many of the other lakes; but nature reigns without controul, and displays scenes that are alternately sublime and beautiful. The lakes of BRIENZ and THUN, collect the waters from the northern flanks of the Helvetian Alps. They are situated about midway between the lakes of Lucern and Geneva, and exhibit much of the true Alpine character.

The CLIMATE of Switzerland more powerfully illustrates the influence of local and physical circumstances than that of any other country in Europe. Situated about the middle of the temperate zone, it unites the temperature of more southern regions with the winter of the poles. In the narrow vallies, where radiation is great, and the free circulation of the air almost excluded, the heat is often excessive, while the meridian beams of the sun fall powerless on the accumulated masses of ice and snow that clothe the higher Alps. In many places, which are either elevated

or exposed to the winds that have swept over the Alpine summits, the winters are severe, and the summers cool. There are, however, several districts in Switzerland which are celebrated for the salubrity of their climate, but this character cannot be applied to the whole country. A region rising into such lofty summits must necessarily be a nursery of storms and tempests ; and this renders the climate subject to frequent and rapid changes. It often happens that on one side of the hills, summer is far advanced—while on the other spring has scarcely commenced.—The tremendous *Avalanche* is a phenomenon peculiar to Alpine countries in the temperate zones, and is not only destructive in its progress, but suddenly changes the temperature of the atmosphere in the vicinity of the places where it happens. These vast bodies of snow and ice descend with impetuous fury from the precipitous declivities of the higher Alps, sweeping away whole forests and rocks, in one accumulated mass, into the lower regions, where they are dissolved by the more concentrated influence of the solar heat. They are most frequent at certain seasons of the year, and it is during winter alone that these ravages of snow, and ice, and hurricane pause ; but amid the awful scenery of the superior Alps, this stillness resembles the silence of death.—Nothing moves or lives—all is enveloped in an atmosphere of intense frost. But, as the spring advances, and gentle breezes awaken nature from her trance, the dissolving power of the atmosphere begins to penetrate the immense masses that have been collecting during the protracted period of winter, and the season of danger from their tremendous visitations begins. These masses generally remain motionless till some concussion of the atmosphere dissolves the wonderful power that retains them in their native seats, and this is sometimes produced by the most trivial circumstance. The hasty step of the traveller—the sound of the human voice—the ringing of a bell—the flying of a bird, or the leaping of a chamois, will frequently dissolve the apparent charm, and produce the fatal catastrophe. Among these scenes the church bells are suspended only a few inches from the ground ; and in some places they are never heard.

In the upper regions of Switzerland, which fall within the limits of cultivation, the Soil being chiefly composed of particles abraded from the rocks that tower above them, is stony and barren, or merely clothed with a scanty covering of short herbs ; but in the lower tracts it is often rich and productive, and in a few places marshy.

The nature of the country presents numerous obstacles to its CULTIVATION ; but they have been, in a great measure, overcome by the persevering industry of its frugal inhabitants. It has been remarked that “few countries present the traveller with such advantageous effects of unremitting industry, as are conspicuous in almost every part of Switzerland ; for here the rocks that were formerly barren, are clothed with luxuriant pastures, or planted with vines ; the traces of the plough are visible on the sides of precipices apparently inaccessible ; the stupendous mountains are elegantly chequered with corn-fields, meadows, and vineyards ; and various spots which nature seemed to have doomed to eternal sterility, are crowned with the numerous beauties of vegetation.” The produce of grain is generally equal to the consumption ; but pasturage is the chief object of the Swiss farmer. Almost all the accessible parts of the mountains afford food for numerous herds of cattle during summer, while the vallies yield large crops of hay for their winter subsistence. A great part of the Swiss population is therefore engaged in the management of their cattle ; and milk, butter, and cheese, constitute their principal support. The vegetable productions of Switzerland possess greater variety than those of any other European country of equal extent. The fig-tree of Italy and the pine of Norway are brought into contrast, while the fruits of the interposing climates are comprised in its production. FORESTS of larch, pine, and fir, inter-

mixed with yew, mountain ash, and birch, adorn the sides of the Swiss Alps ; but they cease to grow at much less altitudes here than in the forests of Scandinavia. Below these the oak, the elm, the ash, the beech, the lime, the chesnut, and some other species flourish in tolerable abundance.

Among the domestic animals, horses and cattle are the chief objects of attention. The horses are esteemed for their vigour and spirit. The cattle are of a good size and often exported ; particularly to improve the breeds of Germany. Sheep are not numerous, and much less care has been bestowed on their improvement than either the interest of the subject demands, or the quantity of herbaceous and upland pasturage would justify. Among the wild animals, the ibex leaps from rock to rock, and shows wonderful agility in mounting the perpendicular cliffs, and bounding over the frightful chasms, of his elevated abode. The chamois also ranges the woody districts, and the marmot is common, and is frequently dug out of its winter habitation while in a torpid state. The bear and the wolf are inhabitants of some of the most unfrequented tracts ; while the golden or bearded vulture dwells in the highest summits, and makes its nest in security amidst the inaccessible precipices. Most of the birds usually found in the other regions of Europe are also met with in Switzerland. A collection of these was made with great care and perseverance, by M. *Springlein*, a naturalist of Rome, and it comprised the species peculiar to every climate from the south of Italy to the north of America. The lakes of Switzerland do not contain any peculiar kinds of fish.

Switzerland abounds less in MINERALS than many other countries of a more gentle and undulating aspect. Its primitive rocks for ever preclude the intrusion of man into their secret recesses ; and it is only those of secondary formation that his all-persevering efforts can penetrate. Particles of *Gold* and *Silver* have been washed down by the rivers and mountain torrents. *Copper* and *Lead* have also been obtained, but *Iron* is the only metal that is now wrought with advantage ; and the smelting of this is, in many places, confined by the want of fuel. *Rock Salt* is found in the Canton of Bern. Vast mines of this substance are also worked near Bex, in the Valais, where the gallery was excavated in 1684. The mountain has since been hollowed to a great extent. Rock-crystal is one of the most abundant of the Swiss fossil exports, and it is often met with in masses of several hundred weight. The calcareous mountains supply beautiful marbles ; but they are merely excrescences in comparison with the immense bodies of granite and porphyry that compose the primitive mountains. Agates, jaspers, serpentines, asbestos, glassy feld-spar, and various petrifications, abound in many places.

MINERAL WATERS are not numerous in Switzerland ; and few of them, except the baths of Leuk, are celebrated. There are some curious warm baths at Fabara, in the country of Sargaus ; while those of Alvenew, in the south-east part of the country, are sulphureous, and resemble the waters of Lower Harrogate. The most noted of the Swiss baths are those of *Leuk*, which are situated about five miles above the ancient town of that name, which stands on the right bank of the Rhene. The waters are derived from five springs that issue from the base of Mont Gemmi. They resemble the Bath waters, and the temperature at the principal source is about 115 degrees ; but in point of cleanliness and comfort, they are the very opposite to those in the west of England.

CHAPTER III.

Principal Cities, Towns, and Buildings—Manufactures and Commerce.

SWITZERLAND contains few towns that are distinguished by their extent or population, their manufactures or commerce. The physical and political circumstances of the country combine to prevent the inhabitants from collecting into large numbers; and cause them to be diffused in hamlets and villages through the contracted vallies, rather than crowded into large cities. The want of a general capital has also precluded that influx to a single town, which is common in other countries. The following are a few of the principal places.

BERN is usually considered as the capital of Switzerland, but this is rather nominally than politically. It is delightfully situated on the banks of the Aar, by which a part of the town is peninsulated. It is the capital of the extensive province of the same name, and is a large handsome town, partly fortified, but not very populous in proportion to its size. Bern possesses singular neatness and beauty. The principal streets are long and wide, and are kept remarkably clean. The houses are built of grey stone, resting upon arcades and interspersed with streams and fountains. The surrounding country presents rich, variegated, and romantic scenery, backed by the superior Alps. The cathedral is a beautiful Gothic edifice, founded in 1471; and the church of St. Esprit, the council-house, the great hospital, the new orphan-house, the town library, and the concert-hall, are its other chief buildings. It also contains a college, an economical society, a cabinet of medals, and an arsenal. Its principal manufactures are crape, silk, linen, woollen and cotton stuffs, with leather, clocks, and watches; but the trade is not extensive. The population has never been great, and is now about 13,500. Bern was the birth-place of the celebrated Baron *Haller*, who was born there in 1702.

BASLE, or BALE, is one of the most commercial cities in the confederacy, and although at present not very populous, it was formerly crowded to excess. It is situated on the banks of the Rhine, where that river quits the frontiers of Switzerland, and assumes its long northern course. It consists of two parts, called by the inhabitants the greater and less towns. These are connected by a bridge across the Rhine, which is here deep, broad, and rapid. Basle was formerly a city of the German empire, before it joined the Swiss confederacy in 1501. Many of the houses are well built, and the town has a handsome appearance, but the population is not proportionate to its extent, as it amounts only to about 15,000. The cathedral, the town-house, and the arsenal, all deserve the attention of the traveller; but Basle has derived most celebrity from its university, and the eminent men it has produced. This university was founded in 1459, and has an excellent library, a cabinet of medals, and a botanical garden. Basle was the birth-place of many illustrious persons, among whom were Grynæus, Buxtorf, Wetstein, Hermann, the Bernouilles, Euler, and Holbein. Erasmus also lived many years at Basle, and was interred in its cathedral. Its situation on the Rhine is favourable for commerce, and there are manufactures of ribbands, silks, cottons, linen, paper, and gloves. The honour of inventing paper has been ascribed to Basle.

The most interesting city now included within the limits of this most interesting

country is GENEVA. Its situation, its scenery, its independence, and its literary fame, give it the pre-eminence. Geneva is situated at the western extremity of the lake of that name, and on the confines of Switzerland, France, and Savoy. The Rhone intersects it, and the verdure of the glacis, with the lofty houses towering above the walls, impart to the distant prospect the appearance of an assemblage of country seats, encompassed with gardens and lawns. Many of the streets, however, are irregular, and the principal one is encumbered with a row of shops on each side, between the road and the foot path, which latter is under arcades. The upper town contains many elegant houses, and commands several delightful views. The chief public buildings are the cathedral, the college, the Hotel de Ville, the library, the hospital, the theatre, and the arsenal. The cathedral is an irregular but interesting edifice, and contains various monuments of persons of note. The public library was founded at the time of the reformation, and contains about 50,000 volumes, among which are many scarce and valuable works. The hospital is a large and handsome building, and was formerly a monastery. The population of Geneva, which does not exceed 23,000, gives it an inferior place among the cities of Europe, but circumstances have imparted to it a celebrity by which it rivals the first capitals. This place originally belonged to the Allobroges, and afterwards became a Roman colony. At a subsequent period of its history, it fell under the sovereignty of the Duke of Savoy, but threw off the yoke and was declared a free state in 1526. It was one of the first cities that adopted the principles of the reformation, and opened its gates as a place of refuge to the persecuted protestants of all countries. It thus became the tutelar city of the reformed faith, and with this its celebrity began to dawn. Education was carefully attended to under the immediate inspection of the state, and its university was resorted to by students from all the reformed territories of Europe. Associated with the name of Geneva are those of Rousseau, Tronchin, Bonnet, Saussure, Mallet de Pan, Necker, Madame de Staël, Berenger, Picot, Pictet, Boissier, and Sismondi. Calvin died at Geneva in 1564. In traversing the delightful environs of this city, *Ferney*, once the residence of *Voltaire*, and *Copet*, the retreat of the celebrated minister of Louis XVI., and his daughter the baroness de Staël, have strong claims upon the traveller's attention.

ZURICH adorns a picturesque situation at the north-west extremity of the lake of that name, and is distinguished for its college, public library, and enlightened citizens. The Limmat divides it into two parts, and a *Jet d'eau* rises above 120 feet. It is one of the most commercial towns in Switzerland, and has flourishing manufactures of muslins, cottons, and silk handkerchiefs; with a population of about 12,000 inhabitants. Zurich was one of the first Swiss cities that separated from the Roman faith by the arguments of Zuinglius.—Bodmer, Heidegger, Gessner, and Lavater, were all natives of Zurich.

LAUSANNE is another of the distinguished towns of this country. It stands about a mile from the northern shores of the lake of Geneva, sometimes called the lake of Lausanne. Its buildings are scattered over the summits of three eminences, which render the streets steep and irregular, but give it a command of prospects rarely to be equalled. Situated mid-way on the mountain side, the height of which forms the back-ground; the lake expands its broad surface in front, about 450 feet below the level of the town, while from its opposite shore rises the range of snow-clad Alps that divides Switzerland from Savoy, and the western horizon is bounded by the summits of Jura. The cathedral, which is a venerable Gothic edifice, arrests the attention of the traveller; the *Chateau* is also an antique structure; and several other buildings, libraries, and cabinets of Natural History invite his inspection. Lausanne is not distinguished either for commercial transactions, or manufacturing industry, as jewellery and silversmith's work are

the only mechanical branches worth mentioning. It is its institutions for education, and the polished character of its society, that have rendered it the resort of strangers, and given wings to its fame. The population amounts to about 9000, many of whom are engaged in the vineyards and gardens of the neighbouring country.

LUCERN is divided into two parts by the river Reuss, where it issues from the lake of Lucern. It stands on a gentle eminence, contains some good houses, and is surrounded by a wall and towers. The cathedral is a fine Gothic edifice, with a remarkable organ, the central pipe of which, Mr. Core says, is 40 feet long, nearly three in diameter, and weighs 1100lbs. Lucern has also a town-hall, a watch-tower, and an arsenal, with several monasteries and convents, and a population of about 7000 persons. Among its curiosities is the model of Switzerland, *in relief*, constructed by the late general Pfyffer.

ALTORF deserves notice as the cradle of Swiss independence. It was here that the first germ of Helvetic freedom made its appearance. Here the Austrian governor Gessler caused a hat to be placed on a pole, and tyrannically commanded the same obedience to be paid to it as to himself. This humiliating command was disregarded by William Tell, and a few of the brave Helvetians, who felt the insult, and indignantly revolted, and thus emancipated their country from thralldom.

ARAU was the place where the Diet of the protestant cantons and the legislative body of the republic met, previously to the late revolution. ST. GALL is a flourishing place, and owes its distinction to its commercial and manufacturing industry, in which it surpasses most other towns in Switzerland. Linen, muslins, and embroidery, are made here in great perfection; and some valuable copies of the classics were discovered, in the early part of the 15th century, in the abbey of St. Gall, where they had been preserved by the monks of the middle ages. SOLEURE is pleasantly situated on the Aar, and contains some elegant buildings. COIRE is a commercial and well-built town, and the capital of the country of the Grisons. NEUFCHÂTEL, on the margin of that lake, is a handsome town, with a population of about 5000 individuals. SION, the capital of Valais, overlooks the Rhone. It was the *Sedunum* of the Romans, and a strong place at that early period. Its situation is highly picturesque, and the surrounding scenery grand and beautiful. The town lies partly between two hills, while towering castles lift their proud battlements on the heights above the city, which is encompassed by vineyards, orchards, and cascades. It also overlooks the delightful valley, which is strewn with the ruins of castles, spotted with villages, and intersected by the struggling Rhone, that dwindles into a silver thread as it rises in the distance. BELLINZONA is romantically situated among the Pennine Alps, near the southern confines of the country.—The other towns are of less importance.

The MANUFACTURES and COMMERCE of Switzerland are restricted by the nature and situation of the country. Composed of independent, and almost insulated cantons, little capable of intercourse with surrounding nations, and wholly deprived of any outlet to the sea, the chief occupation of its frugal inhabitants has always been the rearing of cattle, the dressing of vines, and the culture of the soil. Manufactures, however, have flourished in a few favoured spots, and their silks, linens, muslins, cottons, and leather, with watches, and other kinds of ingenious mechanism, are not unknown in foreign markets. Lace, ribbands, stockings, handkerchiefs, gloves, and velvet, are also made; but the export of these arises more from the frugality of the inhabitants, than from the quantities fabricated. The chief *Exports* are horses, cattle, sheep, cheese, butter, leather, linen, lace, cotton, silks, jewellery, and watches. The *Imports* are principally corn, flax, raw silk, cotton, spices, salt, and various kinds of manufactured goods. The lakes promote the commercial intercourse of places on their banks, and some of the rivers are also navigable.

CHAPTER IV.

Government and Constitution—Laws and Jurisprudence—Army—Revenue—Political Importance and Relations—Religion—Education—Language and Literature—Arts and Sciences—Manners and Customs—Antiquities and Curiosities.

FROM the time that the Swiss shook off the German yoke, and formed an independent political body, the general GOVERNMENT of the country was of the *federative* character. The several cantons united together for their mutual protection, and for the enactment of such laws, or the adoption of such measures, as related to the welfare, or involved the interests of the whole ; but each was totally independent in the management of its own concerns. Some of these cantons adopted the *aristocratical*, and others the *democratical* form of government, while in a few the constitution was a mixture of both. The form of government differed in almost every state ; and, when any question rose that might affect the whole confederacy, it was referred to the general Diet, which was composed of two deputies from each canton, and in which all questions of a general nature were decided by a majority. No country in Europe contained an equal number of independent commonwealths, or so many various forms of government, with the same extent of surface, as Switzerland ; and perhaps there was none in which happiness and content were so prevalent. Oppression was sometimes exercised, and revolts occasionally arose in the aristocratical cantons, but these were generally suppressed without disturbing the harmony of the whole. Wisdom, moderation, and liberty, seem to have pervaded the Helvetic union, and so little was the federative body actuated by the spirit of conquest, or involved in the intrigues of courts, that from the period of its first establishment, to the late unprovoked invasion by the French, Switzerland had scarcely any occasion to employ her army against a foreign foe.

When Switzerland was obliged to submit to France, in 1798, the old constitution was abolished, and a new one formed on the French model. The whole country was declared one indivisible republic, the government of which was invested in two councils and a directory. This was, however, too inimical to Swiss ideas and habits to be satisfactory. In 1802, a new Constitution was proposed and rejected ; but so determined were the Swiss in their hostility to the views of the first Consul of France on this subject, that another form of government was framed more consonant to their ancient customs. The cantonal system was restored, and each state had its independent government re-established. Seven of them, viz. Schweitz, Appenzel, Glarus, Underwalden, Uri, Zug, and the Grisons, were democratical, all the male inhabitants above twenty years of age having votes in the *Landesgemeinde*, or general assembly in which the laws and regulations proposed by the public officers were discussed. The governments of seven others, which were Bern, Zurich, Soleure, Friburg, Lucern, Basle, and Schaffhausen, were aristocratical, and the government was administered by two councils, the privileges of which varied in the different states. The five new cantons that were added were also of the aristocratical kind. The general government of the whole consists of a Diet, to which each state sends a member. This assembly meets at the principal towns in rotation, and determines on peace and war, concludes treaties of alliance and commerce, and decides on all measures relative to the whole body ; but on those

occasions, the majority must embrace *three-fourths* of the members. The president of the Diet acts as chief magistrate, and is styled Landamann of Switzerland. Some slight alterations were made in the constitution when the French influence was destroyed in 1813, and the integrity of the nineteen Cantons, as they existed at that period, was acknowledged as the basis of the *Helvetic system* by the Congress at Vienna.

The LAWS of Switzerland are of a sumptuary kind, but differ in almost every canton. One of the most general is that which regulates the division of property equally among the children.

Each canton supplies a certain contingent to the general ARMY of the confederacy, which amounts to about 15,000, and the internal strength of the country is further increased by a body of militia. In most of the cantons, it was required that each male subject should be exercised in the use of arms, and appear on certain days in the year, to show his proficiency by firing at a mark. He was also to provide himself with clothing, accoutrements, and ammunition, and be always ready for the defence of his country. This created a military spirit among the people; and as it was not called into action by national conflicts, the poverty and population of the different cantons caused the Diet to allow them to enter the service of other states. Switzerland raises a less proportion of REVENUE than any other country. It is not easy to determine the exact amount, as each state has the management of its own resources and income, except what relates to the expenses of the federative body. Prior to the French invasion, the total was stated at more than one million; but since the return of peace it has been estimated at half that sum. This revenue arises from domain lands and taxation, with a certain portion of the annual produce of the other lands, and some duties and customs on merchandize. The proportion that each Swiss contributes towards the revenue, in comparison with the subjects of other European states, is given at page 17.

With a population so scanty, a revenue so small, and resources so limited, the POLITICAL IMPORTANCE AND RELATIONS of Switzerland must obviously be restricted within narrow limits. The latter, however, are not strictly commensurate with the former. Experience has shown that when the object of the contest was *independence*, the spectre of tyranny bowed before the *genius* of liberty. The late contest of the French armies for the possession of the Valais read the same lesson to Europe. Switzerland, however, is too powerless to contend with any of the great states of Europe, and as security, not conquest, must ever be her truest policy, there is little chance of her attempting it, except the country, so dear to the heart of every Swiss, should again be polluted by the touch of an invading foe. The late periods of her history show that she has the most to fear from France, and, on this ground, a close alliance with Austria would be her best safeguard.

The political confederacy of Switzerland is not strengthened by RELIGIOUS union; for the protestant principles are established in some cantons, and the Roman catholic faith in others, while both are professed in the remainder. Those cantons in which the reformed faith has been adopted are Bern, Basle, Schaffhausen, Zurich, Neuchatel, and Geneva. The reformation was introduced into Switzerland by Zuinglius, who differed from Calvin only in a few speculative points. The catholic cantons are those of Schweitz, Uri, Underwalden, Zug, Friburg, Soleure, Tessin, and Valais. In these the hierarchy is similar to other catholic countries. In the Grisons, Thurgovia, Argovia, Glarus, Appenzel, St. Gall, and Pays de Vaud, both modes of faith are established; but free toleration prevails in all. The religious animosities that raged in past times have wholly subsided.

EDUCATION has for some time been an object of care in Switzerland, particularly in those cantons that have adopted the protestant faith. Travellers, indeed,

have been surprised at the general intelligence of the lower classes. Besides public schools in several towns, there are colleges at Bern, Zurich, and Lucern, with literary societies at other places. There is also a flourishing university at Basle, and another of great repute at Geneva.

The dialect of the German is the LANGUAGE chiefly spoken in Switzerland, but French and Italian are widely diffused in the parts which border on those kingdoms. In the country of the Grisons, the Romanese is the common dialect, which is considered as an immediate derivation from the Latin. Since the restoration of Letters in Europe, the natives of Switzerland have distinguished themselves in almost every branch of LITERATURE and SCIENCE. Various Swiss names are pronounced with respect by the learned, and many are held in high estimation by the general reader. Among these distinguished names may be enumerated, Bodmer, Bernoulli, Bonnet, Bullinger, Euler, Gebelin, Gesner, Haller, Herbst, Hirzel, Holbein, Lavater, Mallet, Necker, Osterwald, Rousseau, Saussure, Scheuchzer, Turretin, De Watt, Zimmerman, and Zuinglius, who have all finished their labours, while several others are still sustaining the reputation transmitted to their care.

A full delineation of the MANNERS and CUSTOMS of Switzerland would present much to admire and much to imitate. Inhabiting the most elevated and rugged regions of Europe, in immediate contact with France, Italy, and Germany, the Swiss have long maintained a superior elevation of political and moral character, and held a much higher rank in the scale of nations than either their territory and population, or their arts and commerce, could possibly confer. It was their bravery and prudence, their frugality, frankness, and fidelity, that placed them in this conspicuous situation. At the beginning of the 14th century, a few rustic heroes, united by the love of liberty and independence, burst the bonds of the Austrian yoke, and laid the foundation of a civil and political system, which excited the admiration, and defied the malignity, of surrounding nations, till it was overwhelmed by the political hurricane of the French Revolution. What was effected by bravery, was secured by prudence, and the Swiss long practised what other nations seemed to know only in theory,—that they are not the richest who have the greatest possessions, but they who have the *fewest wants*. Pomp is in general disregarded, superfluity and luxury banished, and the strictest economy observed. Like the ancient Romans, they are inured to agriculture and arms. The original simplicity of the pastoral life, is still preserved—all seem content—none miserably poor.

The Swiss are generally tall, well proportioned, active, laborious, and zealously attached to the liberties of their country. Personal and domestic cleanliness universally prevail; and their manners and customs afford strong points of contrast with the people of those nations who have laboured under the oppression of despotism and tyranny. Mr. Core observes, “the cleanliness of the houses and of the people is peculiarly striking; and I can trace in all their manners, behaviour, and dress, some strong outlines which distinguish this happy people from neighbouring nations. An air of equality seems to mark the great body of the population, and a tone of conscious independence runs through all their sentiments. They frequently display a fund of original humour, and often show the quickness of their perception by sallies of wit. Many of the peasants manifest a degree of information beyond what is usually discovered in the same class in other countries.”

In reference to the costume of the lower classes Dr. Moore observes, “The Swiss peasants are the tallest and most robust I have ever seen. Their dress is very particular.—They have all little round hats, like those worn by the Dutch skippers. Their coats and waistcoats are all of a kind of coarse black cloth.—Their breeches are made of coarse linen, something like sailors trowsers; but drawn together in

plaits below the knees, and the stockings are of the same stuff.—The women wear short jackets with a great superfluity of buttons. The unmarried women value themselves on the length of their hair, which they separate into two divisions, and allow to hang at its full length, braided with ribbands in the *Ramallie* fashion.—After marriage, these tresses are no longer permitted to hang down; but being twisted round the head in spiral lines, are fixed at the crown with silver pins. This is the only difference, in point of dress, which matrimony makes. Both married and unmarried women wear straw hats ornamented with black ribbands.” Sumptuary laws are still in force in many parts of Switzerland. No dancing is allowed, except on particular occasions, and all superfluities of dress, as well as articles of luxury, are prohibited. Even the head dresses of the ladies are subject to certain regulations. Games of hazard are strictly forbidden, and a heavy fine is levied on any one who loses a sum equal to about nine shillings of our money.

Many of the houses in Switzerland are built of wood, with stair-cases on the outside, and large pent-house roofs reaching very low, and projecting beyond the building. This peculiar structure is in unison with the beautiful wildness of the country. Numerous *chalets*, or cottages, that are built in the sides of the mountains, are mere hovels, constructed entirely of wood, and containing only one or two rooms. Some of them have their roofs secured merely by the pressure of large stones. Several of these rustic dwellings are situated on the sides of the mountains, in places almost inaccessible to any but a Swiss; and to screen them from the desolating effects of the tremendous avalanche, they are frequently placed immediately beneath some towering rock, over which the snowy deluge shoots without touching the lowly hut. In many parts of the country, each cottage is surrounded by small patches of land, which produce a little grain, pasturage, and culinary vegetables, and in favourable situations, the thriving vineyard is to be seen covering the rock, or bending beneath the autumnal load of purple clusters. The villages are not always divided by a road in the centre, as in most other countries, but the cottages are erected with the utmost regularity, and there are merely pathways leading from dwelling to dwelling, and from one small enclosure to another. These scenes often present the very perfection of rural simplicity, aided by the picturesque situation of the hamlet, and harmonizing with the surrounding objects.

One striking peculiarity in the population of some parts of Switzerland, is the number of *Goitrous* persons and idiots, or *Cretins*. The first of these afflictions has its seat in the fore part of the throat, and is thought to be occasioned by the deposition of certain calcareous particles suspended in the water, in the thyroid gland, which, by their irritation, produce the humours with which these persons are afflicted. The *Cretins* are born idiots, and are the most powerless and imbecile of human beings. They seldom have the power of loco-motion, and a *Cretin* of 25 years of age, can rarely either stand or walk. All the senses seem absorbed in a voracious appetite; and life passes in a kind of unvaried trance. Such afflictions are very prevalent in the *Valais*. These idiots are always treated with great respect, and being considered by many as blessings, are called “*souls of God without sin.*”

Few monuments of *ANTIQUITY* are to be found in Switzerland. Some relics of Roman art are still visible at the places where their stations were fixed; but these are not of a peculiar or striking character. Castles, churches, and monasteries of the middle ages, are common in many parts. Of these the abbey of St. Gall is one of the principal. Some of the monumental structures also relate to the emancipation of the country, and have, doubtless, been instrumental in preserving that flame of patriotism which warms the heart of every true Swiss.

Switzerland is more abundant in *NATURAL CURIOSITIES* than any other region of Europe; perhaps, than any on the globe. Stupendous mountains, glaciers, pre-

cipices, cataracts, and scenes that are awfully sublime, meet the traveller in every direction, and make him feel as if he were intruding on the sanctity of Nature. To delineate the elaborate theme with perspicuity, would require the combined aid of the pen and the pencil. The glaciers have at all times deeply interested the curious and hardy traveller, as objects most wonderfully sublime and terrific. To give an idea of these magnificent scenes, *Bourrit's* description of the source of the Rhone is selected.

"At length," says he, "we perceived through the trees, a mountain of ice as splendid as the sun, and flashing a similar light on the environs. The first aspect of the glacier of the Rhone inspired us with great expectation. A moment afterwards, this enormous mass of ice having disappeared behind thick pines, it soon after met our sight between two vast blocks of rock, which formed a kind of portico. Surprised at the magnificence of this spectacle, and at its admirable contrasts, we beheld it with rapture. At length we reached this beautiful portico, beyond which we were to discover all the glacier. We arrived: at this sight, one would suppose one's self in another world; so much is the imagination impressed with the nature and immensity of the objects. To form an idea of this superb spectacle, figure in your mind a scaffolding of transparent ice, filling a space of two miles, rising to the clouds, and darting flashes of light like the sun. Nor were the several parts less magnificent and surprising. One might see as it were the streets and buildings of a city, erected in the form of an amphitheatre, and embellished with pieces of ice, cascades, and torrents. The effects were as prodigious as the immensity and the height. The most beautiful azure, the most splendid white, the regular appearance of a thousand pyramids of ice, are more easy to be imagined than described. Such is the aspect of the glacier of the Rhone, reared by nature on a plan which she alone can execute: we admire the majestic course of the river without suspecting, that what gives it birth and maintains its waters, may be still more majestic and magnificent."

Waterfalls are numerous. That of the Rhine near Schaffhausen has been repeatedly described. The Rev. Mr. *Owen*, in his late tour to France and Switzerland, who visited this waterfall for the third time, observes, "It was, indeed, a great sight, and testified to my inmost soul the majesty of him who is wonderful in working. The sky was unusually clear, the sun shone in full splendour, the waters tumbled with noble vehemence, and through the spray which they threw around them, a distinct rainbow was formed on the surface of the stream into which they were precipitated. The surrounding scenery, with its agreeable diversification of mountains and vallies, vineyards and hamlets, illuminated by the rays of the meridian sun, added greatly to the effect of the spectacle; and though the prevailing character was grandeur, yet the mind was soothed, as well as struck in beholding it, and the complacency of the beautiful, agreeably relieved the excitement of the sublime." Numerous mountain torrents dash impetuously over cascades of several hundred feet in perpendicular height, and impart motion and grandeur to scenes the most romantic. Many of the lakes and springs are among the milder singularities of the country. Some of the former, unite the charms of summer with the glaciers and sublimity of winter.

Switzerland is prolific in ARTIFICIAL as well as in natural curiosities. Roads ascending the mountains where the goat could scarcely climb, and sometimes penetrating the solid rock; bridges thrown over yawning chasms, and rushing torrents, from a view of which the traveller involuntarily shrinks, display in almost every canton the enterprising industry of man. The celebrated hermitage near Friburg is frequently visited, and much admired. The models of the country, made by general *Pfyffer* and professor *Mayer*, are unique of their kind.

STATISTICAL AND SYNOPTICAL TABLES.

LATITUDES and LONGITUDES of the principal places in Switzerland.

The Latitudes are all *North*, and the Longitudes all *East* from the meridian of England.

Names of Places.			Latitudes.			Longitudes.			Names of Places.			Latitudes.			Longitudes.			
	°	'	"	°	'	"				°	'	"	°	'	"			
Aigle	46	22	0	6	50	0	Hapsburg	47	30	0	8	8	0					
Altorf	46	50	0	8	27	0	Lausanne	46	31	45	6	45	30					
Appenzel	47	21	0	9	36	30	Leuk.....	46	12	0	7	39	0					
Arau	47	23	0	7	54	0	Locarno	45	39	0	8	35	0					
Arbon	47	30	0	9	27	0	Lucern	47	3	27	8	18	35					
Aubonne	46	30	0	6	13	0	Lugano	45	59	56	8	57	35					
Baden	47	24	0	8	12	0	Morat	46	52	0	6	53	0					
Basle	47	40	0	7	31	0	Neufchatel	47	5	0	7	0	0					
Bellinzona	46	4	0	8	44	0	Schaffhausen	47	49	0	8	36	0					
BERN	46	56	55	7	26	0	Schweitz	46	53	0	8	30	0					
Bex	46	47	0	6	52	0	Sion	46	6	0	7	12	0					
Bienne.....	47	6	0	7	0	0	Soleure	47	15	0	7	20	0					
Bremgarten	47	16	8	8	11	0	Staubach	46	30	0	7	45	0					
Coire	46	50	0	9	25	0	Stantz	46	52	0	8	11	0					
Frauenfeld	47	35	0	8	56	0	Tirano	46	12	0	9	46	0					
Fribourg	46	48	30	7	9	8	Wildhausen	47	7	0	9	28	0					
Gall, St.	47	25	41	9	21	37	Wittengen	47	22	0	8	12	0					
Geneva	46	12	7	6	9	30	Zoffingen	47	5	0	7	6	0					
Glarus	47	6	0	9	13	0	Zug	47	10	0	8	16	0					
Granson ..	46	50	0	6	26	0	Zurich	47	20	0	8	25	0					

MONIES, WEIGHTS, MEASURES, AND EXCHANGES.

As Switzerland has long been composed of a variety of separate Cantons, the same Monies, Weights, and Measures are not used in all parts of the Country. We shall, however, only give those of *Zurich*, which is one of the most commercial places, except the Exchanges, which we have also subjoined for *Basle*.

MONIES.

Monies of Account.

Accounts are generally kept at Zurich, in Florins, Creutzers, and Hellers; and sometimes in Florins and Schillings. The following are the proportions and values of these.

	s.	d.
8 Hellers are 1 Creutzer, equal to 0	0	$\frac{3}{4}$
1½ Creutzer ... 1 Schilling	0	$0\frac{3}{4}$
60 Creutzers .. 1 Florin	1	11
1½ Florins..... 1 Dollar	3	$5\frac{1}{2}$
2½ Florins..... 1 Mark of Silver	4	$9\frac{1}{2}$

Coins.

Gold.		s.	d.
Ducat	equal 4 Florins., 18 Creutzers,	8	$2\frac{1}{2}$
Silver.			
Eens,	equal 2 Florins..	3	10
Florin	... 60 Creutzers.....	1	11
Half Florin...	30 ditto.....	0	$11\frac{1}{2}$
Quarter ditto	15 ditto..	0	$5\frac{1}{4}$
Batze	... 3½ ditto..	0	$1\frac{7}{8}$
Schilling	... 12 Hellers.....	0	$0\frac{3}{4}$

French Louis d'ors also pass for 10 Florins each, and French Crowns for 2½ Florins.

COMMON WEIGHTS.

Gold and Silver Weight.

	Eng. Troy grains.
17 Arsen are 1 Pfénning, equal to	14½
4 Pfennings ... 1 Quintlin	56½
4 Quintlins 1 Loth	226
16 Loths 1 Mark	3616

Commercial Weight.

Two weights are used in Commercial transactions; the light weight for silk, and the heavy weight for other articles. The light pound contains 16 ounces, and the heavy pound 18 ounces.

	Avoir. lbs.
2 Loths are 1 Ounce, equal to	·065
16 } Ounces.. ... 1 Pound	1·04
18 }	1·17
100 Pounds..... 1 Centner	104 117

USUAL MEASURES.

Dry Measure.

	Winch. bushel.
4 Mosslings are 1 Vierling, equal to	·146875
4 Vierlings... .. 1 Viertel	·5875
4 Viertels 1 Mutt	2·35

All kinds of dry fruits are measured by the Immi, which is one-ninth of a Viertel. Pulse is measured by the Malter of 16 Viertels, equal to 9¼ Winchester bushels; this Viertel being rather larger than that used for other kinds of grain.

Long Measure.

	Eng. feet.	Inches.
12 Inches are 1 Foot, equal to	0	11 ⁹ / ₁₁
2 Feet 1 Ell	1	11 ⁷ / ₁₁
10 Feet 1 Ruthe or Rod	9	10 ⁴ / ₁₁
The Claffer or Fathom is	6	1 ⁴ / ₁₁

Liquid Measure.

	Eng. Wine gallons.
2 Maasses are 1 Kopf, equal to	·8672
8 Kopfs 1 Viertel	6·9375
4 Viertels..... 1 Eimer	27·75
1½ Eimers 1 Saum	41·625

There is also a *gross* and a *thin* measure sometimes used at Zurich and the adjacent parts of the country. The gross eimer is nearly equal to thirty and five-sixths English gallons; and the eimer of the thin measure is about twenty-nine English wine gallons.

Superficial Measure.

	English.
1 Square Foot is equal	139½ sq. inches.
100 Square Feet are 1 Ruthe.....	96½ sq. yards.
360 Square Ruthes 1 Juchart or Acre	¾ Acre.

EXCHANGES.

The principal Exchanges of Switzerland are executed either at *Basle*, or *Zurich*; except what is done at *Geneva*, which has lately been united to the Confederacy.

BASLE

Exchanges with, and gives,

Amsterdam.....	100 Rixdollars for	90 Rixdollars
Augsburg	106 Florins	100 Florins
Frankfort	100 Rixdollars	130 Rixdollars
Genoa	96 ditto	100 Pesos of 115 soldi
Hamburg	100 ditto	90 Rixdollars
Leghorn	94 ditto	100 Pesos of 8 reals
London	1 ditto	48 Pence sterling
Milan	1 Florin curr.	65 Soldi current
Paris	100 Rixdollars	164 Ecus
Vienna	106 Florins	100 Florins

ZURICH

Exchanges with, and gives,

Amsterdam....	100 Rixdollars for	63 Rixdollars
Augsburg	110 Florins	100 Florins
Frankfort	90 ditto	100 ditto
Genoa	20 Creutzers	1 Lire f. b.
Hamburg	243 Florins	100 Rixdollars
London	10 ditto	£1 Sterling
Milan	130 Creutzers	7 Lire current
Paris	105 Florins	250 Francs
Venice.....	13 Creutzers	1 Lira piccola
Vienna.....	110 Florins	100 Florins.

EXTRACTS FROM THE ACTS OF CONGRESS,

IN FAVOUR OF SWITZERLAND.

General Treaty, signed at Vienna, 9th June, 1815.

ARTICLE LXXIV.—“The integrity of the nineteen Cantons, as they existed in a political body, from the signature of the Convention of the 29th December 1813, is recognised as the basis of the Helvetic system.”

ARTICLE LXXV.—“The Valais, the territory of Geneva, and the principality of Neuchâtel, are united to Switzerland, and shall form three new cantons. The valley of Dappes, having formed part of the canton of Vaud, is restored to it.”

ARTICLE LXXVI.—“The bishoprick of Basle, and the city and territory of Bienne, shall be united to the Helvetic confederation, and shall form part of the canton of Berne.

“The following districts, however, are excepted from this last arrangement :

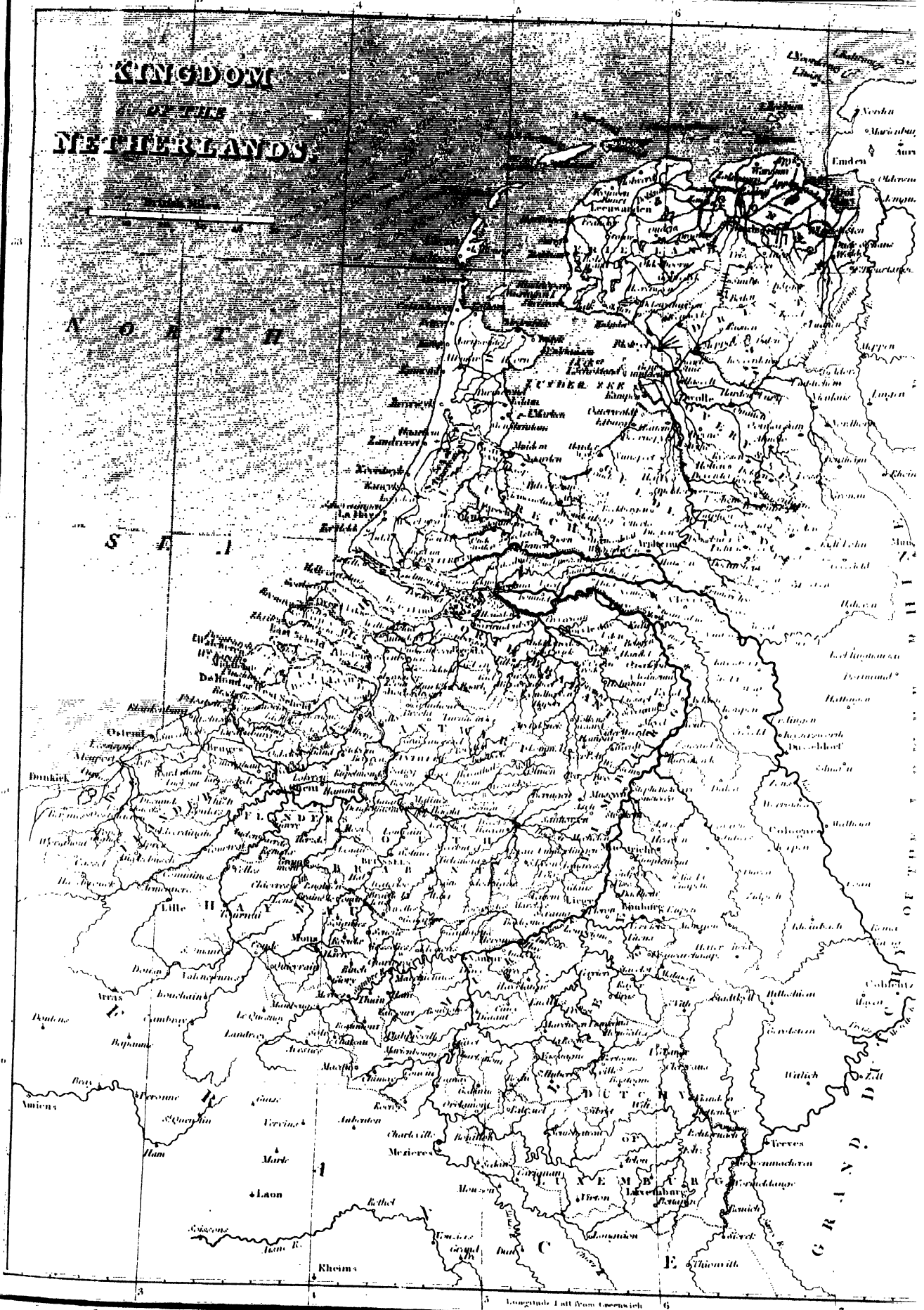
“1. A district of about three square leagues in extent, including the communes of Altschweiler, Schonbuch, Oberweiler, Terweiler, Ettingen, Fursteintin, Plotten, Pleffingen, Aesch, Bruck, Reinach, Alersheim; which district shall be united to the canton of Basle.

“2. A small *enclave*, situated near the village of Neuchâtel de Lignieres, which is at present, with respect to civil jurisdiction, dependent upon the canton of Neuchâtel, and with respect to criminal jurisdiction, upon that of the bishoprick of Basle, shall belong in full sovereignty to the principality of Neuchâtel

KINGDOM OF THE NETHERLANDS

N O R T H

S O U T H



KINGDOM OF THE NETHERLANDS.

CHAPTER I.

Name—Situation—Boundaries—Extent—Population—Original Inhabitants—Progressive Geography—Present Division and Distribution of the Inhabitants.

THE Name of this Kingdom is derived from the nature of the country, and literally signifies *Low Lands*, or *Low Countries*, or, as the French call it, *Pays-Bas*. This was one of the last European monarchies that was formed on the overthrow of the French influence, in 1814 and 1815. It is situated between $49^{\circ} 30'$ and $53^{\circ} 34'$ of north latitude, and stretches from $2^{\circ} 30'$ to $6^{\circ} 58'$ of east longitude, occupying a part of the western coast of central Europe. It is BOUNDED on the north and west by the German Ocean, on the east by the kingdoms of Hanover and Prussia, and on the south by France. Its length from north to south, is about 280 miles, but its greatest breadth does not exceed 155, and in many places towards the north it is less than half that extent from east to west. The whole surface, including the Grand Duchy of Luxemburg, is 24,400 square miles, and the POPULATION is about 5,226,000 individuals; which is nearly 214 persons to each square mile.

THE ORIGINAL INHABITANTS of the regions which form the new kingdom of the Netherlands, are supposed to have been Celtic; but when the Roman conquests extended to the marshes of Holland, they found them peopled by the *Batavi*, a Belgic tribe, which had displaced the former possessors. Subsequently to the decline of that empire, the Frisians and the Franks, from the north and east of the Rhine, occupied the country; and from them the ancient Batavians descended; but the population has received repeated accessions from various causes and quarters, particularly from the religious persecutions of France and Germany.

In addition to the changes that were effected by the statesman and the warrior, the PROGRESSIVE GEOGRAPHY of this kingdom derives increased interest from the alterations produced by the elements. The Netherlands were anciently denominated Belgic Gaul. About the middle of the ninth century arose the Earls of Flanders, and the Counts of Hainault, and afterwards the Dukes of Lorraine and Brabant. The possessions of these houses were subsequently concentrated in the Dukes of Burgundy. With the heiress of Burgundy, the Netherlands passed to Maximilian of Austria, the father of the Emperor Charles V. This monarch united the seventeen provinces into one state, but the treatment they received from his successor caused the Dutch to revolt; and the *Union of Utrecht* was formed in 1579, though the independence of the *Seven United Provinces*, or the *Republic of Holland*, was not finally acknowledged till the peace with Spain, in 1648, which left the Dutch in possession of all their conquests. The

ten southern or catholic provinces, with the exception of some of the frontier towns, continued under the dominion of Spain, till the termination of the Spanish succession war, in 1714, when they were transferred to Austria. These now became a subject of contention between that power and France, and were sometimes in the possession of the one and sometimes of the other, till they were finally conquered by the latter in 1794. From that time they formed part of the French territory up to the period when that power was reduced to its ancient limits, in 1814. Nor did Holland escape the grasp of Buonaparte. The Batavian republic was established under the authority of France in 1795; and transformed into the *kingdom of Holland*, and *Louis Buonaparte* proclaimed king on the 5th of June, 1806. On the 1st of July, 1810, Louis abdicated the throne in favour of his eldest son, and retired as a private citizen into Bohemia; but this did not meet with Napoleon's approbation, and he incorporated Holland with the French empire on the 9th of the same month. At length the people became weary of this connexion, the events of 1813, had weakened the power that bound them—the people rose—their fetters were broken, and "*Orange boven*" (Up with the House of Orange) re-echoed through the country. A provisional government was formed at Amsterdam on the 18th of November, William Frederick, of Nassau and *Orange*, landed from England at the close of the same month, entered Amsterdam on the 2d of December, and was proclaimed *Sovereign Prince of the United Netherlands*, on the following day. By the act of *Congress*, signed at Vienna on the 31st of May, 1815, the seventeen provinces of the *Netherlands*, which had formerly been subject to the Dukes of Burgundy, were re-united under the Prince of Orange, as William I., *King of the Netherlands*.

This kingdom now includes the following territories.—1. The *seven* northern or protestant provinces, which composed the former republic of Holland—2. The *ten* southern or catholic provinces, that constituted the Austrian Netherlands, and were also called *Belgium*—3. The principality of *Liege*, which was a bishopric till overrun by the French in 1794. This is now incorporated with the seventeen provinces.—The Grand Duchy of *Luxemburg*, which was obtained as an indemnity for the German possessions of the house of Orange Nassau ceded to Prussia. By the second *General Pacification* of Paris, November 20th, 1815, the French ceded some frontier districts, and two fortresses to the Netherlands.

The Geography of Holland has been subject to mutations from another cause still more irresistible than the boasted invincible legions of the French emperor. The waters that washed its western shores have made a deep encroachment into the heart of the country, and hundreds of square miles were suddenly submerged, and now form the bed of the *Zuyder Zee*. At what precise period this catastrophe took place, or whether from the rising of an interior lake, and the enlargement of its communication with the sea, or from an overflowing of the ocean, and the consequent deluge of the lower parts of the country, is not easy to determine, as no record on the subject seems to have been made. From the state of ancient geography, these inundations do not appear to have taken place in the time of Charlemagne, and some of them are as recent as the 15th century. In 1421, the estuary of the Meuse, or rather of the southern branch of the Rhine, suddenly formed a large lake on the south-east of Dort, and overwhelmed seventy-two villages; and a hundred thousand inhabitants perished in the deluge.

This kingdom is now divided into the following provinces, to which their population and chief towns are annexed.

NORTHERN OR DUTCH PROVINCES.

<i>Provinces.</i>	<i>Population.</i>	<i>Chief Towns.</i>	<i>No. of Inhabitants.</i>
Groningen	136,000	Groningen	25,000
Friesland	170,000	Lieuwarden	15,000
Drenthe	47,000	Meppel	4,700
Overysse	148,000	Zwolle	3,000
Guelderland	244,000	Arnhem	10,000
Utrecht	108,000	Utrecht	32,000
Holland	750,000	Amsterdam	200,000
Zealand	112,000	Middleburg	15,000

SOUTHERN OR BELGIC PROVINCES.

North Brabant	252,000	Bois-le-duc	15,000
Limburg	293,000	Maestricht	18,500
Antwerp	250,000	Antwerp	62,000
East Flanders	602,000	Ghent	60,000
West Flanders	521,000	Bruges	45,000
Hanault	431,000	Mons	18,000
South Brabant	366,000	Brussels	80,000
Liege	355,000	Liege	50,000
Namur	157,000	Namur	15,000
Luxemburg	226,000	Luxemburg	10,000

This statement of the population does not include the military. By adding these we shall have the following numbers for three great divisions of the kingdom.

<i>Divisions.</i>	<i>Extent in sq. miles.</i>	<i>Population.</i>
Dutch Provinces	11,000	2,000,000
Belgic Provinces	11,300	3,000,000
Grand Duchy of Luxemburg	2,100	226,000
Total	24,400	5,226,000

Thus it appears that the Belgic part of the kingdom is the most populous. It contains on an average about 265 inhabitants to each square mile. The northern provinces have 182 persons on the same space; and Luxemburg 108. The province of East Flanders, however, is the most populous in the kingdom, and is indeed one of the best-peopled districts in Europe. It has more than 550 inhabitants to each square mile. West Flanders and Holland have each about 350. South Brabant and Antwerp, are also populous provinces; Limburg contains about 195, Liege 160, Guelderland 125, and Overysse, which is the least populous of the provinces, has still fewer people on the same extent of surface.

CHAPTER II.

Outlines—General Surface—Mountains—Rivers—Canals—Lakes—Climate and Seasons—Soil—Culture—Products.

AS the southern and eastern boundaries of the Netherlands are merely arbitrary, the OUTLINES cannot, in consequence, be strongly marked. On the west and north, it is washed by the ocean, which, from the flatness of the country, has made such encroachments upon the land as to render it one of the most irregular coasts on the continent. It is either divided into low islands or indented by deep bays. The shore is so flat that it can seldom be discovered by vessels till they are very near the coast. In some places the land is lower than the sea, and the country is only preserved from inundation by vast dykes, which the inhabitants have raised as a rampart against the waves. The Zuyder-Zee stretches to the very centre of the northern division.

Scarcely any country presents so few natural beauties. All the northern division is one level, with hardly an elevation to relieve the eye, and not the semblance of a mountain throughout its whole extent. From a tower or steeple which is the only place where an extensive view can be obtained, a vast marshy plain apparently stretches to the horizon, and is intersected in all directions by canals and dykes. Meadows of the freshest verdure, grazed by numerous herds of cattle, and towns, villages, and detached houses, embosomed in trees, vary the scene, while the numerous vessels constantly gliding along the canals give life and animation to the whole, strongly impressing the mind with an idea of the wealth and industry of the country. The southern provinces, and particularly those towards the south-east, are more varied. Undulating plains, and gentle eminences, woods, meadows, and corn-fields, are intermixed.

This kingdom is too small and of too level a nature to give rise to any RIVER of magnitude; but it is the outlet of several which derive their origin from foreign sources. The chief of these are the Rhine, the Meuse, and the Scheldt. Before the RHINE enters the Netherlands, it has not only lost much of its rapidity, but much of that picturesque beauty which is so celebrated in the higher part of its course. It soon afterwards becomes a sluggish stream, and divides into two branches. One of these forms the WAAL. Before reaching Arnheim, it again meets with a slight impediment that divides its stream. One branch of it then assumes a northern direction, takes the name of the YSSEL, and flows into the Zuyder-Zee. It soon afterwards divides a third time; the main arm of which forms the LECK and joins the Waal above Rotterdam; while that, which retains the original name, becomes reduced to an insignificant stream, and winds slowly past Utrecht and Leyden to the sea. The Rhine flows from east to west, nearly through the centre of the kingdom.

The MEUSE rises in France and enters the southern part of Namur. Its direction at first is nearly north and south; but having almost intersected this province, it winds to the north-east, flows through the provinces of Liege and Limburg, and then turning to the west, sweeps round the northern border of North Brabant and opens a wide estuary into the sea in the southern regions of the province of Holland. In some places the scenery on its banks is beautiful, particularly between

Namur and Maestricht. It receives several other rivers, passes a number of large towns, and extends about 400 miles.

The SCHELDT also originates in France, and enters the Netherlands more to the west than the Meuse. It passes Ghent, and some other towns in its progress to Antwerp. Soon after leaving that town, it experiences the impulse of the tide, and divides into two estuaries, called the east and west Scheldt, which encompass the large island of Zealand.—Several other rivers are tributary to these, and are of great advantage to the internal commerce of the country.

CANALS are so numerous in the northern provinces of this kingdom that to enumerate them would be a task similar to enumerating the roads in England. The country is so level that scarcely a lock is necessary in their formation. They facilitate internal commerce, and by means of the rivers, connect it with Germany and France. The northern part is a country of *Dykes* as well as of Canals. The sea, the lakes, the rivers, and the canals, are all kept within their limits by artificial mounds, which constitute the principal roads in many parts of the kingdom. Some of these are from fifty to seventy feet broad, and many feet above the level of the adjoining country.

The LAKES of this kingdom are destitute of that romantic scenery which gives them such an attractive charm in some countries. They have more resemblance to the meres in the low countries of England, than to the lakes that adorn the mountain districts of the northern counties. HAARLEM MERE is the principal of these. It is situated in the province of Holland, between the Zuyder-Zee and the ocean, and occupies a great part of the space between Haarlem, Leyden, and Amsterdam. It is about twenty miles in length, and from twelve to fifteen in breadth. It communicates with the south-western extremity of the Zuyder-Zee, and is navigable for small vessels. Another lake of this kind is formed by the waters of the Meuse and the Rhine, near Dort, at the southern extremity of the same province, and is connected with the sea by the estuary of the former river. Several meres are also found in Friesland, Groningen, and some of the other provinces, but they all partake of the dull uniformity of the country itself.

The union of the Belgic with the Dutch provinces has given a greater variety to the CLIMATE of this country than it previously possessed. In the northern districts its prevailing characteristics are cold and humidity. A dense fog covers the face of nature much longer than in most other parts of Europe, and the rivers, lakes, and harbours, are often frozen, when those on this side the channel are wholly unaffected by the frost. In the south-eastern part the air is more pure, and the climate resembles that of the south of England, except that, being near the western side of the continent, its summers are often warmer, and its winters colder.

Although the SOIL of these dominions presents a variety of distinct species to the discriminating eye of the scientific agriculturist, the general observer merely discerns that it is composed, with few exceptions, of a sandy loam in the southern, and is of a dark marshy nature in the northern, provinces. In the latter it is fruitful in pasturage; and in many parts of the former it is well adapted for the pursuits of agriculture. Some patches of clay occur in the Belgic provinces; and portions of Namur, Luxemburg, and Liege, are stony and barren. Some districts in North Brabant, Overysse, and Drenthe, are covered with marshes, heaths, and woods, and the barren heath of Bourtang stretches through a great part of Groningen.

AGRICULTURE has long been an object of attention in the provinces of Belgium. This care being bestowed upon a favourable soil, has rendered it one of the most productive countries in Europe; a distinction it has maintained for 600 years, and which it now shares in common with England and Lombardy. Great care is

employed in the extinction of weeds, the choice of seed, and the alternation of crops, so as to avoid the necessity of leaving the land fallow. In some of the richest parts of the Netherlands, the return of grain is ten or twelve for one, and in others seldom less than seven or eight. In the northern districts of the kingdom tillage husbandry is little practised. The land is chiefly dedicated to pasturage. Numbers of lean cattle are imported from Denmark and Germany, and fed in the rich marshes, while great quantities of butter and cheese are made for the supply of other countries.

The **VEGETABLE PRODUCTS** of this kingdom are so similar to those of England that it would be superfluous to enumerate them; except that in some of the northern provinces there is a strong predilection for the cultivation of madder and tobacco; and in the southern, hemp and flax are a more common crop than in this country.

Great attention has long been paid to the cultivation of flower-roots and seeds in the Dutch provinces. It has become a kind of passion among the more opulent classes, and is found a great source of profit by others. The gardens of various parts of Europe, owe much of their beauty to the bulbs and seeds originally imported from Holland. In the vicinity of Haarlem more than twenty acres are dedicated to the culture of hyacinths alone, and a large portion to that of tulips. The flowers are usually sold at the market of Amsterdam, and the weekly amount of these sales has sometimes been 15,000 florins.

The horses and cattle are large, and in some parts the sheep are good, but this branch of rural economy seems not to have been sufficiently attended to in many districts. The wild animals afford few materials for geographical description. The common kinds of game are found in most districts, and the stork, with a few other rare birds unknown in England, visit the coasts. The rivers, lakes, and seas, abound with fish.

MINERALS cannot be expected in the alluvial soil of the northern provinces. In some places sea-sand has been found at the depth of 100 feet, and in others large trees have been met with deeply imbedded in the marshes. The southern provinces are more favoured. Namur affords iron. Limburg has mines of calamine and zinc; and valuable beds of coal have likewise been discovered in the district that stretches from Maestricht to Charleroi. Several kinds of stone and marble are also obtained in some of the hilly tracts that accompany the course of the Meuse. The only **MINERAL WATERS** of note in the kingdom of the Netherlands are those of *Spa*, in the eastern part of the county of Liege, and about 25 miles south of Aix-la-Chapelle. These were discovered in the early part of the 14th century, and issue from five separate springs; but the celebrity of Spa is eclipsed by that of its rival Aix-la-Chapelle.

CHAPTER III.

Principal Cities, Towns, and Buildings—Manufactures—Fisheries—Commerce and Shipping.

A STRIKING difference is observable between the cities and towns of the northern and southern parts of the kingdom. In Holland they are all intersected with canals, and much commercial activity prevails. The little use they make of carts and other carriages, either for business or pleasure, in addition to the quiet industry of the Dutch character, render the towns in Holland remarkable for the silence with which their transactions are executed.—In Belgium the towns are large, gloomy, and apparently deserted. A late intelligent traveller has remarked, “The dullest country town in England can afford no idea of the stillness and vacancy of the several noble-looking cities on the line of road from the Flemish coast to Brussels. The peasants in their hamlets and farms seem all prospering in their lowly and simple condition; but, when we arrive at those huge masses of buildings, whose lofty spires have challenged our attention for previous leagues of flatness, and where we, therefore, expect to find a stir amidst the many noisy operations of human industry, and to be saluted with the show of life in its largest and gayest state, we are suddenly plunged into shade and silence. Not the shade of the woods which soothes, but of heavy walls which startles;—not the silence of the fields, which is that of nature in its fertility—but of untenanted habitations, which is that of society in its decay. A solitary individual may be seen walking in the middle of one of the long and narrow streets of these towns,—like a sexton stepping down an echoing aisle of a cathedral,—listening to the reverberation of his own feet, instead of hearing the enlivening sounds of a crowded thoroughfare,—gazing with a contemplative air, as if in the paved court of a college, instead of glancing with a vigilant one, as one must in the crowd of Cheapside.”

As all the professions and trades of this kingdom are subject to patents or commercial licenses, the towns are divided into classes or ranks, and the tariff modified according to the importance of the place in which the calling is to be exercised. The whole of the towns and villages are included in seven classes. The first contains only the capital. The second comprises Antwerp, Brussels, Ghent, and Rotterdam. The third embraces Bruges, the Hague, Groningen, Liege, and Utrecht. The fourth contains Haarlem, Leyden, Mons, Delft, Ostend, and fourteen others of nearly the same size and population. The fifth rank also includes nineteen, and the sixth forty-one. All the remaining places in the kingdom are included in the seventh class.—So great a similarity prevails in most of these towns, that a description of a few will suffice for the whole.

AMSTERDAM is the capital, and the great *emporium* of th's kingdom. It is situated on the small river Amstel, and on an arm of the Zuyder-Zee, called the Y or Wye. At first it was only a small village of fishermen's huts, but rose into commercial importance in the 13th or 14th century, and was subsequently fortified, and elevated to the rank of a city. Successive additions were made to its size and population, till about the middle of the 17th century, when the commercial prosperity of the Dutch Republic was at its height, and Amsterdam attained its present extent, and was classed among the first trading cities in Europe. From the marshy

nature of the ground it was necessary to build the city upon piles, and hundreds of thousands of these were employed to secure the foundation. Canals intersect it in all directions; and their banks, in many of the streets, are planted with trees. These contribute alike to the cleanliness of the city, the convenience of the merchants, and the fogs of the atmosphere. They often become feculent during summer. The inner harbour is secured by rows of piles, and usually displays a forest of masts.

On the land side the city is defended by a wall with regular bastions, encompassed by a broad and deep ditch; by means of which, and the sluices connected with it, the adjacent country can soon be inundated. In the streets along the principal canals the houses are uniform and handsome, while an air of neatness generally pervades the city.

Amsterdam contains several elegant public buildings. The most distinguished of these is the *Stadthouse*. It stands in an open square, near the centre of the city, and rests upon a foundation of 13,659 oak piles, driven deep into the marshy soil. It covers an area of 282 feet in length, and 235 in breadth, and is all built of free-stone, except the ground-floor, which is of brick. Its interior is adorned with marble, jasper, statues, paintings, and other costly ornaments. It originally included prisons for both debtors and felons, and the guard-house for the citizens; but they have been removed, and the Stadthouse converted into one of the most splendid palaces in Europe. This great commercial city contains many other edifices that deserve the attention of the stranger. Among them are the exchange, the East and West India houses, the bank, the admiralty, and the post-office. The docks and the arsenal are upon a large scale. All religions are tolerated, and the churches and other places of public worship are numerous. Some of them are handsome buildings. But the new church is the most noted, and contains the tombs of several eminent men, and one of the largest organs that was ever made. In reference to the sound of this organ, a recent traveller observes, "It seemed to me like nothing earthly, but to be the voice of the trumpet of the great archangel which should call the dead to rise." Amsterdam has likewise many public and well-supported institutions. Charitable, literary, and philosophical societies participate in the public liberality. When Holland was annexed to the French empire, in 1810, Amsterdam was the chief town of the department of the Zuyder-Zee, and the third town in that empire, as it ranked next to Paris and Rome. In 1785, its population was about 230,000; but in 1812, it had been reduced to less than 200,000, which is about its present number of inhabitants. Amsterdam has manufactures of stuffs, lace, woollen-cloth, carpets, leather, and various other articles, among which are those of gold, silver, and jewellery. Its commerce is also of a very general nature, embracing almost every article of foreign and domestic production.

ANTWERP, (or ANVERS, as it is called by the French and Dutch,) is, by the government regulations, placed at the head of the second class of cities, but this is rather in reference to its commercial importance than to any other circumstance. It is a large and well-built city, situated on the Scheldt, on the frontiers of Flanders. Before the late occupation by the French, Antwerp was an open town, merely defended by a strong fort, built by the Duke of Alva in 1566. This city was the ancient emporium of Flemish commerce. It was at its meridian about the year 1570, but subsequent events turned the tide of commerce into a more northern channel, and as Amsterdam rose, Antwerp declined. In 1808, its population was reduced to about 53,000; but its trade has since revived, and its inhabitants have increased to nearly 62,000. The harbour of Antwerp is deep and commodious, and capable of containing a thousand vessels, which, by means of numerous canals, can deposit their cargoes in most parts of the town. Antwerp displays many vestiges of its

ancient opulence, with some marks of its reviving prosperity. The cathedral and the Stadthouse are elegant buildings, and the exchange is indisputably one of the finest in Europe. The Baltic warehouse is a pile of great dimensions. The churches present nothing remarkable, except that of St. James, in which are deposited the remains of the celebrated *Rubens*. Many of the inhabitants of Antwerp are occupied in various manufactures, among which are those of cotton, lace, and carpets; with sugar refining and bleaching. The jewellers are noted for their nicety in cutting diamonds, which, with other articles of jewellery, are exported in large quantities to the Levant. Antwerp has been the scene of several conflicts, and was possessed by the French from 1794 to 1814.

BRUSSELS is the capital of the southern provinces of the kingdom, and is a handsome city, situated partly on a gentle eminence, and partly on a plain watered by the river Sienne, in South Brabant. It was anciently surrounded by a double wall and ditch; but these have long been demolished, and the ramparts laid out in public walks, and planted with trees. These walks present several delightful views, and the eye ranges over a landscape uniting many of the beauties in English scenery. The surrounding country is well cultivated and presents the picture of rural comfort, while many of the appendages of a capital belong to the environs, and the large forest of *Soignies*, now so memorable, stretches its dark skirting along the whole southern horizon. The entire circumference of the city is stated at seven English miles. "The upper part of the city of Brussels," says a late traveller, "is very magnificent. The noble park forms a feature in the grandeur of the public buildings: it is a square of great size, laid out in large regular walks, finely shaded with trees, and surrounded by the facades of the palaces, public offices, and houses of the great. This combination of gardening, planting, and architecture, is very striking and well adapted for a metropolis. It introduces nature in a court dress that is very splendid, and does not shock the best-regulated taste when thus placed in the very centre of courtly state and pomp."

The lower part of the town is old and the streets narrow; but the bustle of commerce accompanies the great canal into this quarter. Public fountains are interspersed through the city; and the traveller above referred to observes, "The market-place of Brussels is superbly beautiful, but in a different style of architecture from that which characterizes the buildings around the royal park. The exquisite Gothic spire of the *Hotel de Ville* seems the work of fairy hands, from its carved and florid lightness, scarcely supporting its elegant loftiness. The fronts of the halls of the trading companies are all wrought the same way, with ancient inscriptions, complicated ornaments, and all those ingenious over-doings which arise from the ill-regulated ambition of skill and talents. There is, however, a captivating harmony in the proportions of these Gothic edifices of the Low Countries."

Many of the *Plaats*, or squares, add greatly to the beauty of the town. St. Michael's square is an extensive oblong, encompassed by elegant buildings of uniform architecture, and ornamented with pillars of the Doric order; while a public walk, shaded by trees, passes through the middle of it. Few cities in Europe surpass Brussels in the elegance of its public walks. Some of the churches are magnificent buildings. That of St. Gudule has sixteen chapels, and is adorned with many beautiful paintings. The chapel of Notre Dame is also an elegant building; and the church of the Capuchins was one of the finest they possessed in Europe. Brussels likewise contains several hospitals and other public institutions. There is a public library comprising about 100,000 volumes, chiefly

obtained from the suppressed monasteries. The academy of sciences was instituted in 1772, and holds its meetings in the public library.

Brussels is celebrated throughout Europe for its manufactures, particularly for carpets, lace, and camlets. The lace manufacture employs nearly 10,000 people. Its carriages are also noted throughout the continent. Various cotton and woollen stuffs are likewise made there, with silk stockings and earthenware. During the twenty years that Brussels was in possession of the French, it was the chief place in the department of the Dyle, and its population, in 1802, had been reduced to about 66,000; but since the events of 1814, it has increased to 80,000, including a great number of English, who have resorted thither.

GHENT, or GAND, is another of the large cities of the Netherlands, the general appearance of which has been described at the commencement of this Chapter. In point of extent, it is one of the largest cities in Europe. The circuit of its walls is nearly fifteen English miles, but besides the streets, these include numerous gardens, orchards, and even corn-fields, rivers, and canals. It is the capital of East Flanders, and stands on the Scheldt, where that river is joined by the Lys. Many of the canals are bordered with handsome quays, and planted with rows of trees. The houses are large, but heavy and inelegant. The comparatively little traffic, and the almost deserted appearance of the place, are strongly indicative of its decline. Many of the churches and other public buildings are spacious structures. The cathedral is a noble specimen of Gothic architecture. The marble floors and pillars, the richly ornamented altars, the golden candlesticks, with the monuments and pictures, give its interior a superb appearance. Ghent has manufactures of fine lace, cotton, linen, silk, woollen, paper, and leather. The great provincial college of this city has been long in repute; and was converted into one of the three universities of the kingdom, in 1816. Ghent is also distinguished in the military and diplomatic history of Europe. It was the residence of Louis XVIII. when he was forced to quit Paris in 1815; and is now the residence of several English families. Its population has of late been increased to 60,000 individuals.

ROTTERDAM is another of the chief towns in this kingdom, and the next to Amsterdam in point of commercial transactions. It is situated on the north bank of the Meuse, about thirty-seven miles south of the capital. The canals bring vessels of two or three hundred tons to the doors of the warehouses in several parts of the town. The banks of many of these canals are planted with trees; and a stranger on approaching Rotterdam, sees such an intermixture of chimnies, trees, and streamers of vessels, that he is at a loss to discover whether it is a fleet, a forest, or a city that is before him. The churches and other public buildings resemble edifices of the same kind in other Dutch towns, but are in general inferior to those of the capital. The town is well-built, chiefly of brick, and contains many handsome houses. "The city of Rotterdam," observes a recent traveller, "has been greatly admired, and it will not disappoint the expectation that has been raised. As we passed through the streets in our way to the hotel, we felt delighted in viewing the regularity and grandeur of the houses, the splendour of the shops, the neatness of the streets, the crowds on the foot-paths, the rows of trees, the broad canals, the forests of masts of large vessels, with the trees, lamps, and houses on the other side of the street beyond the canal." It was the birth-place of the celebrated *Erasmus*, who died at Basle in 1467. A statue in bronze to his memory stands on a pedestal of marble, on the great bridge in the market-place. The present population is about 54,000.

The HAGUE is a large and beautiful town, situated about thirty miles southwest of Amsterdam, and three from the sea-coast. It is an open town, encompassed



only with a moat and draw bridges. Having neither fortifications nor municipal rights, it is usually considered as a village, though surpassed by few cities in Europe, either in the elegance of its buildings, or the beauty of its streets. Its situation is more elevated than most of the other Dutch towns. The principal streets are wide, handsome, well-paved, and lighted; and, like those of the other towns, contain canals, trees, and bridges. Several of the edifices, both public and private, display many elegant specimens of architecture. The old palace is an enormous pile, exhibiting various styles of architecture, and containing a valuable collection of paintings. The rural palace of the Orange family is situated in a large wood, about a mile north of the Hague, which is also encompassed with many other handsome villas. The Hague and Brussels are now the alternate residences of the king and legislature. Several of the churches are handsome structures, and the town is adorned with five noble squares and a park. The Hague never was a place of trade, and is in this respect unlike the other towns of Holland. The canals are often stagnant, and afford an unpleasant contrast with the general cleanliness of the houses and streets.

LEYDEN is a large handsome town in the same province, and only a few miles from the Hague. It has long been noted for its university. Leyden is built in a rectangular form, and is about two miles in length. The principal street, which runs the whole length of the town, is surpassed by few in the kingdom. There are seventeen churches, and various other public buildings, belonging to Leyden, but scarcely any of them contain any thing remarkable. The Stadthouse, however, is a noble edifice, surmounted by a number of spires, and containing a valuable collection of paintings. The buildings of the university are hardly to be distinguished from the private houses; but more elegant accommodations are now building. The number of students at the university has for several years been about 300, many of whom study medicine. A valuable botanical garden, with a cabinet of natural history, and a library containing about 50,000 volumes, are attached to the university; about 10,000 of them are manuscripts. Leyden has some small manufactures, and its great annual fair is much frequented. The population is about 31,000.

BRUGES is a large opulent town in West Flanders, and has a communication with the sea, and other parts of the province, by means of canals, the principal of which lead to Sluys and Ostend. Trade and manufactures flourished here in former ages more than they do at present; but it still has a population of nearly 45,000 inhabitants. Bruges has long been the residence of a convent of English nuns, who fled to this country during the Revolution, but have since returned, and employ themselves in the business of instruction.

OSTEND is one of the most noted sea-ports of the Netherlands, and is situated a few miles west of Bruges. The trade of Ostend has revived since the return of peace, particularly with England. Regular packets sail from this country several times a week, both with the mails and passengers. It also exports great quantities of grain and other native products of the Netherlands, and supplies the adjacent country with colonial produce and such other articles as their wants require. The population is about 10,500.

HAARLEM is a city in the province of Holland. It stands on the river Spaaren, about three miles from the sea, and communicates with Amsterdam, Leyden, and the lake of the same name, by canals. Its streets and buildings are inferior to those of Leyden. The public edifices most worthy of attention are the Stadthouse and the great church. This last is the largest in Holland, and contains several antiquities, some of which are of the time of the Crusades. Its great organ is considered as one of the most perfect instruments of the kind; and its solemn

tones resemble peals of distant thunder. The statue of Laurence Coster, the inventor of the art of printing, which stands in the great square near the principal church, rivals that of Erasmus at Rotterdam. Haarlem contains several manufactures of the same kinds as those in the other towns already mentioned, and a population of about 22,000.

UTRECHT is another of the well-built towns of Holland, and stands on a natural mound that is there called a hill; but which is not so elevated as to preclude a canal. Utrecht is the seat of a university, but the number of students is less than at Leyden; and its buildings have little to distinguish them from the common dwellings of the inhabitants. The cathedral is an ancient edifice, and the population is about 32,000.

GRONINGEN is a large well-built town, the capital of the province of that name, and situated on the rivers Hunse and Fivel. It has handsome squares and public buildings, and is the seat of a university, which was founded in 1614, and endowed with the revenues of several monasteries. It has also a good trade in the produce of the country, and nearly 26,000 inhabitants.

LIEGE is a large manufacturing town, and the capital of that province. It stands on the Meuse, and, including its suburbs, which are extensive, contains about 50,000 individuals. The buildings are high, and many of the streets narrow, crooked, and gloomy. Most of the inhabitants are engaged in trade and manufactures. The iron, coal, and alum, of the surrounding districts, are great sources of employment. The iron-works are extensive; and the manufactures of fire-arms, clock-work, and nails, employ great numbers in the town and neighbourhood. Its trade is also promoted by its communication with Germany and Holland.

LOUVAIN is a large and ancient town in South Brabant, the foundation of which is attributed to Julius Cæsar. Its principal celebrity has arisen from its university, which was suppressed by the French in 1797, but has since been re-established. Its population is about 25,000. Mons is the capital of the province of Hainault, and has lately been rendered one of the principal barrier towns towards France. It is well-built and contains about 20,000 people. Dort is one of the most ancient places in Holland, and was detached from the main land by the great inundation of 1421. The brothers *De Witt*, so famous in the history of their country, were the sons of the Burgomaster of Dort. It is well situated for trade, and has a population of 19,000 individuals. MAESTRICHT contains a population of about 18,000 persons. MIDDLEBURG and NAMUR have each nearly 15,000 inhabitants. The first is the capital of Zealand, and is situated on the island of Walcheren, of which Flushing is the chief port. DELFT also deserves notice as the scene of many of the councils and preparations of the Dutch patriots in their struggles for freedom against the Spaniards. The old church contains the tombs of Admirals Van Tromp and Heyn, with a monument in honour of Grotius, who was a native. The earthenware, called Delf, derived its name from this place, where it was extensively made at an early period. The population is about 14,000 people.

The MANUFACTURES and COMMERCE of the Netherlands are interesting topics, and have for centuries been prosecuted with astonishing perseverance and success. While the industry of Britain, France, and Germany either slumbered, or was merely exerted in supplying a few domestic wants, that of Belgium and Holland was active and flourishing. The linens of Holland, the lace of Brussels, the leather of Liege, the silks of Antwerp and Amsterdam, and the woollens of Leyden and Utrecht, were early spread over Europe. These articles are still made in great quantities, with a variety of others, among which are hardware, jewellery, paper, pottery, cotton, hats, starch, and tobacco pipes. Sugar and salt refining, oil-

making, hemp dressing, wax bleaching, and timber sawing, also afford employment to great numbers of the inhabitants, and supply many exports as well as the demands of home consumption.

The FISHERIES of the Dutch, both on the coast and in distant seas, are extensive. They were long distinguished above the other nations of Europe for curing herrings, with which they supplied most of the southern countries; and their vessels still crowd the seas during the season for taking these migratory tribes. Their ships also frequent the banks of Newfoundland, the coasts of Scotland and Norway, with other places where cod is taken. The Dutch were among the early adventurers who sought the treasures of the Arctic ocean, and numbers of their vessels annually pursue the monarch of the seas amidst the floating masses of northern ice.

The situation and local circumstances of this kingdom are highly favourable to commercial pursuits; and the spirit of enterprise early availed itself of these advantages, to render the country rich and prosperous. The fertile soil of Belgium gave it the precedence in point of time, and Bruges, Ghent, and Antwerp were commercial cities as early as the 12th and 13th centuries. Situated near the central part of western Europe, with an extent of coast deeply indented by the estuaries of noble rivers, as well as intersected in almost every direction by spacious canals, the Netherlands possess peculiar facilities for the prosecution of commerce. The Dutch became early a maritime power; and settlements were soon established in various parts of the globe. The continents of Asia, Africa, and America, the Spice islands of the eastern, and the Antilles of the western ocean, saw their colonies rise, their banners wave, and their industry triumph. From these the treasures of every region were copiously poured into the ports of Holland, which became the general storehouse of Europe. Though she has suffered by the increase and rivalry of other states, and lost many of her colonies, they are still extensive, and her commercial enterprise widely diffused. In the variety of its *Exports* and *Imports*, the commerce of this kingdom resembles that of Britain, as it includes almost every article produced either by the industry of man, or the bounty of nature, in all parts of the globe. The principal imports from the East Indies are cloves, cinnamon, mace, pepper, raw silk, with manufactured articles, particularly silks and cottons. From the West Indies are brought sugar, coffee, cotton, tobacco, dye-wood, and some other articles. Large quantities of indigo, cochineal, Peruvian-bark, and Spanish wool, are annually sent from Cadiz to Amsterdam. England transmits colonial produce, hardware, tin-plates, rock-salt, and printed cottons; while wine and brandy are furnished by France. The produce of the country is exported in great abundance, and German linens are sent to the West Indies and America.

From its situation at the mouths of several large rivers, Holland is not only the principal channel through which great quantities of manufacturing goods and colonial produce are transmitted to Switzerland and Germany, but vast floats of timber from these countries are annually conveyed to its ports. Dort is the great *dépôt* for these rafts, one of which is frequently from seven hundred to a thousand feet in length, and when sold produces £30,000. They are guided in their passage down the river by a number of men who have huts erected on the floating islands for their accommodation.

Much of the trade of this kingdom is carried on in native vessels; but many are chartered from French and Spanish ports, and others are engaged in the Baltic trade to various parts of Europe. In the number of the shipping, therefore, the Dutch and Belgic subjects of this kingdom are only surpassed by Britain.

CHAPTER IV.

Government and Constitution—Laws and Jurisprudence—Army—Navy—Revenue—Political Importance and Relations—Religion and Ecclesiastical Geography—Education—Language and Literature—Arts and Sciences—Manners and Customs—Antiquities and Curiosities.

THE GOVERNMENT of the Netherlands is a limited monarchy, and the CONSTITUTION has a great similitude to that of England in several points, while in others it approaches the federal government of the United States of America. The executive power is solely vested in the king: and the sacredness of his person, the responsibility of his ministers, the existence of a cabinet and privy council, and the two houses of parliament, are striking resemblances to the English constitution. But the existence of provincial states, to whom the administration of various local affairs is entrusted, are remains of the federative system that was previously established in the northern provinces. The following brief view of the three branches of this new Constitution, however, will show that its likeness to its professed prototype is more nominal than real.—The king has the direction of all foreign affairs; he appoints ambassadors and consuls; makes war and peace; coins money; confers titles; commands the forces; appoints and dismisses all officers. He has the direction of the finances, with the regulation of all colleges and functionaries. It is also declared by the constitutional charter, that “The supreme direction of the colonies and of the possessions of the kingdom, in all other parts of the world, belongs exclusively to the king.” The privy council, whose duty it is to advise the king in the execution of these important prerogatives, consists of twenty-four members of his own appointment.

The members of the Upper House of Parliament are nominated by the king for life. Their age must exceed forty; and their number must be between forty and sixty. To the article on this subject, the following clause is annexed. “The members of the first chamber receive, for the whole indemnity of their travelling expenses and their abode, the sum of 3000 guilders per annum.” The Lower House is elected by the provincial states; and one-third of the members are renewed annually. Their number is 110, and each receives a yearly salary of 2500 guilders, or about £220. Though the population of the two parts of the kingdom is very different, each sends the same number of representatives to the States General, which, for the several provinces, are,

<i>Dutch Provinces.</i>	<i>No. of Men.</i>	<i>Belgic Provinces.</i>	<i>No. of Men.</i>
North Brabant.....	7	South Brabant	8
Guelderland	6	Limburg	4
Holland	22	Liege	6
Zealand	3	East Flanders	10
Utrecht	3	West Flanders	8
Friesland	5	Hainault	8
Overysse	4	Namur	2
Groningen	4	Antwerp.....	5
Drenthe	—	Luxemburg	4
	55		55

All bills for making new laws, unlike the British house of commons, require the sanction of the crown before they can be introduced into this legislative assembly.

The provincial states are appointed for each province, and “ are charged with the execution of the laws relative to the protection of religious worship ; with the execution of the laws relative to its exterior exercise ; also those relative to public instruction ; to the administration of charitable institutions, to the encouragement of agriculture, of commerce, and manufactures.” They also superintend the internal economy of the province ; and recommend to the king the execution of such undertakings as they think would be useful to the part of the kingdom over which they preside. The liberty of the press is nearly the same in the Netherlands as in Britain ; and there is no political disqualification on account of religious tenets.

The administration of justice in this kingdom is regulated by a variety of local customs and statutes, with the ordinances of the States-General, and of the Roman law. The French code was also introduced when the country became a part of that empire. The judges are appointed by the king on the recommendation either of the States-General or of the Provincial States, and hold their situations for life. The inferior courts are numerous, and from these there are courts of appeal ; the superiors of which are at the Hague, Brussels, and Liege. All are open to the public as in England.

An extended frontier and numerous colonies require a considerable Army, even during peace. This amounts to about 50,000 men, many of whom are either Swiss or Germans, for the lower orders of the Dutch are unwilling to embrace a military life. The Navy that was once so formidable to Britain is now reduced to twelve sail of the line, and about twenty-five frigates. The manner in which their squadron, commanded by *Van der Capellen*, co-operated with the British, under Lord Exmouth, against Algiers, proves them to be not unworthy successors of Van Tromp, De Ruyter, and De Wit. The annual REVENUE of the kingdom is now about seven millions ; which is nearly equal to the current expenditure. The Navy requires half a million, the Army two millions and a half, and the church establishment about £270,000. Various circumstances have augmented the national debt, which is about 140 millions, but as the interest is only two, or two and half per cent. the aggregate payment under this head is little more than £3,000,000.

As a member of the general political body of Europe, this kingdom evidently belongs to the second class of states, which may be considered as embracing Spain, Sweden, Turkey, and the Netherlands. The states in this class have little exterior influence in the great councils of Europe, but they are not directly controuled in their interior administration by any of the larger powers. Holland affords a fine example, in past ages, of what can be effected by union and perseverance when animated by the spirit of patriotism, and engaged in the cause of freedom. The industry and commercial spirit of the Dutch and maritime Belgians, the fertility of many parts of the country, with their numerous settlements and colonies, give them a great influence in various parts of the globe, and supply them with extensive sources of commercial advantage and military power. Though unable to contend singly with any one of the five states of the first class, the Netherlands would obviously be a powerful auxiliary to any of them. The choice of that to which she allies herself is by no means a matter of indifference. Lying in immediate contact with France and Prussia exposes her, on any clashing of political interests, to the invasion of each. The consequences of subjection to the one she has already experienced : the sway of the other, her welfare leads her to deprecate. Her political and commercial alliance with the giant of the north would not be without its weight with either of these

powers. Though Austria might be interested in the success of the struggle with either of them, as it related to herself, she cannot easily forget that a great part of the southern regions of this kingdom were long included in her territories. England is therefore the power with whom a political and commercial alliance must prove the most beneficial. In reference to political affairs, this assertion requires no proof. With respect to commercial concerns, the rapid revival of her trade since the overthrow of French influence, and the free admission of the English, bears directly upon the point: as the number of ships which entered several of the ports from 1808 to 1813, was not one-twentieth of the average number by which they have since been visited.

This kingdom does not possess the advantage of religious union. The Belgic provinces are still *catholic*, and the Dutch have long been *protestants*, which includes the reigning family. Free toleration has always been a distinguishing feature in the religious system of Holland; but it is only of late that it has been introduced into Belgium. The calvinistic faith is the established mode in the northern parts, though other sects are numerous. The parishes are small, and as the livings are in the gift of the crown, the ministers receive their salaries from the royal treasury. The Belgic provinces have their hierarchy as in other catholic countries. By the *concordat* concluded between Buonaparte and the Pope, the Belgic provinces comprise two archbishoprics; and nine bishoprics; and though this hierarchy is preserved by a royal calvinist, the same uncontrouled supremacy is not allowed. The archbishop of Mechlin is the metropolitan. The catholics are the most numerous, in the proportion of about four millions to one million and a half.

EDUCATION in general is greatly promoted in the kingdom of the Netherlands, and some wise regulations have been enacted for its diffusion. Parish schools are established under the protection of government; while those of a superior description, both public and private, are diffused through every province. No person can undertake the instruction of youth without first being examined by the proper commission, and having a license or patent for that purpose. The subject is divided into four gradations, according to the branches to be taught, and no person who has only passed his examination for a lower gradation can assume the duties of a higher without a previous examination. In the large towns there are royal schools, resembling the *lycées* of France, in which the languages and sciences are taught by approved masters. The number of the universities has now been raised to six. Those of Leyden, Utrecht, and Groningen are universally known; and a royal edict passed on the 25th of September, 1816, instituting three others at Louvain, Ghent, and Liege. There are also institutions called *Athenæ*, established at Amsterdam, Brussels, Middleburg, Franeker, Harderwyk, Deventer, and Breda, which only differ from the universities in not having the power of conferring degrees. There is likewise a military school at Dort, and a naval academy at Helvoetsluys, with separate institutions for law and medicine in other parts.

In their public lectures, the professions still retain the antiquated custom of employing the Latin to the neglect of their own LANGUAGE, which is a kindred tongue to the German. It is copious and uncouth, and much remains yet to be done to bring it to the perfection of which it is capable. The Flemish differs in some respects from the Dutch, but not so widely as to prevent the natives from understanding each other. French is generally spoken, and particularly in the south, where it has superseded the native tongue, except with the lower classes.

In the career of LITERATURE the Dutch have taken the lead of their southern neighbours the Flemish, whose chief fame rests on the celebrity of their painters. Grotius, Erasmus, Huygens, Boerhaave, Van Swieten, Leueuenhoeck, Swammerdam,

Grævius, Burmann, Vandel, and Wittenbach are names well known. The Dutch school of painting presents great variety, and is distinguished by excellent colouring and a faithful imitation of nature in her most minute details. It has produced celebrated historical, portrait, and landscape painters. Many exquisite sea-pieces, and admirable imitations of vegetable and animal life, have also issued from the Flemish and Dutch schools. The style of elaborate finishing was carried to the highest pitch in this school, but there is sometimes a deficient incorrectness of design and dignity of subject. To enumerate one-tenth of the distinguished names would be inconsistent with the present plan, but a few shall be given. *Rembrandt* brought the *Chiar-oscuro* to the highest perfection; and *Paul Potter* was unrivalled in the representation of cattle. Heem, Wignants, Terburg, Ostade, Douw, Metzu, Wouwermans, Birchem, Bakhnyzen, and many others, have all been eminent. The Flemish school has produced works of almost every style and excellence. *Rubens*, *Van Dyke*, and *Teniers*, are among its greatest ornaments; and were succeeded by Calvart, Venius, Jordaens, Champagne, and a host of others, who have long since finished their labours; while the talents of the living artists B. Bessche, and H. Antonis, reflect new lustre upon this school. In no other nation of Europe are the habits and MANNERS of the people so completely formed by their country as in Holland. The Dutch are patient, ingenious, and persevering. Their natural temperament is phlegmatic, and their labour consists rather in slow and continued application, than in arduous exertion. The patriotic spirit of their predecessors seems to have vanished, and self-interest remains the sole spring of their actions. On this head an amiable and intelligent traveller has observed, “the infatuation of loving money, not as a mean, but as an end, is paramount in the mind of almost every Dutchman, whatever be his other dispositions and qualities; the addiction to it is fervent, inveterate, invincible, and universal, from youth to old age.” This love of gain has impelled them into almost every region of the globe, where they have formed settlements for its gratification; and the cruelties and oppressions they have sometimes exercised on the helpless natives, may all be referred to the same cause. The general character of the Belgic part of the population is much less fixed. Their situation brings them more immediately into contact with the French, and their late increased intercourse has engrafted some of the vivacity of that volatile people upon the gravity of the original stock. The most striking feature in their national character, is an extravagant fondness for religious ceremonies and exhibitions.

A stranger on entering Holland, is struck with the extreme cleanliness and decorum of the towns and villages, as well as of their domestic abodes. The Dutch are generally of a low stature, but stout, and what is not common in other countries, the women are taller than the men. The females are by no means noted either for elegance of figure, or expression of countenance. Their complexion is usually sallow, and their manners inanimate. The dress of all but the sailors and lower classes, resembles the English, though generally made of coarser materials. In some instances the large small-clothes of the men, with the jerkins, mob caps, enormous hats, and short petticoats, of the females, are still retained. Mrs. *Radcliffe* thus describes the dress of a rustic group of females. “Several women were collected about their baskets of herbs, and their dress had some of the novelty for which we were looking; they had hats of the size of a small Chinese umbrella, and almost as gaudily lined within; close white jackets, with long flaps; short, coloured petticoats, in the shape of a diving-bell; yellow slippers, without quarters at the heel; and caps that exactly fitted the head, and concealed the hair, but which were ornamented at the temples by gold filagree clasps, twirling like vine tendrils over the cheeks of the wearer.” The cleanliness every where manifest,

would be a sufficient proof of Dutch industry, if others were wanting ; but the vast works constructed for preserving the country against the inroads of the ocean, exhibit the most astonishing effects of this quality. The strictest frugality and economy are connected with it ; and the whole nation fully exemplifies the well-known maxim, *parsimonia magnum rectigal*.

Those accounts which represent the Dutch as so much absorbed in the acquisition of wealth as not to be susceptible of social enjoyment, are too highly coloured. They employ much time in smoking and drinking, and most of their amusements are of the placid and retired kinds, except that of skaiting, which is practised by all ranks, when the canals and rivers are frozen. Sledge racing is also another diversion much employed. Little that is robust finds a place in their usual exercises. "The theatres are well supported. The pipe and the bottle, either in the little summer house, where they look at the canal, or by the fire in winter, is a perpetual and never-failing source of amusement. Cards, drafts, chess, back-gammon, are all in use." Tea-gardens are much frequented on Sundays and holidays ; and the *Musicos* on a Sunday evening are likewise resorted to. The domestic virtues of the females have often been topics of praise, and the great body of them are doubtless deserving of it. Their extreme attention to cleanliness is a pleasing trait in their character ; but it is more studiously bestowed upon their houses than their persons ; and many of their ideas of delicacy and propriety are rather continental than English. Their common use of the *chauffépied*, is a custom not likely to be adopted by the fair sex of our own country. It surely indicates an obtuseness in the moral feeling, when in a country professing to be civilized and free, reformed, and presbyterian, that vast bodies of the more respectable classes resort, with their wives and daughters, and particularly on Sunday evenings, to houses where music and dancing are performed by the most degraded females, for the amusement of the company. In these houses numbers of unhappy young women are confined close prisoners, and compelled to all the drudgeries of vice for the benefit of their keepers ; and with such the respectable part of female society often mix without a blush.

Few ANTIQUITIES are to be found in the kingdom of the Netherlands. The principal vestige of Roman art, is the ruins of a round tower at Catwyck, a short distance from Leyden, which is supposed by some Antiquaries to have been erected by Caligula, and restored by Severus. Inscriptions, engraved stones, and other specimens of art, which belong to the Roman period, have also been found in various places. The ancient cathedral at Utrecht, is a fine specimen of the monuments of the middle ages. Many examples of the same kind are met with in the Belgic provinces, for in that period the country concentrated most of the wealth of Europe, and the spirit of the times directed its expenditure in the erection of edifices, which are still objects of admiration.

In a country so destitute of the grand features of Nature, NATURAL CURIOSITIES cannot be expected, but artificial curiosities are every where met with. The whole country may be considered as one, for its dykes, its canals, and its sluices all come under that denomination.

Some parts of the provinces of Zealand and Holland are composed of ISLANDS. The principal of these are Walcheren, South Beveland, Overflaque, and Ysselmond. A chain of islands also stretches round the north-west, among which are the Texel, Vlieland, Der Schelling, and Ameland, with several small ones. They are all low and flat. The Texel is the most important. It is situated at the entrance of the Zuyder-Zee. It is about twelve miles long, and contains a good harbour, which is the rendezvous of the Dutch navy.

WALCHEREN is one of the islands that form part of the province of Zealand, and is separated from North and South Beveland by a narrow channel, and from Dutch Flanders by the West Scheldt. It is about thirteen miles long, and eight broad, and lies so low that it is subject to inundations, and can seldom be seen at sea till the vessel is very near the shore. It contains some good arable and pasture land. *Middleburg* is the principal town, and the capital of the whole province; but *Flushing*, standing near its southern extremity, is the chief port, and a place of good trade, with a basin large enough to contain a whole fleet.

NORTH and SOUTH BEVELAND are encompassed by the mouths of the Scheldt, and situated east of Walcheren. North Beveland is about six miles in length and four in breadth, and was overflowed by the inundation of 1532, but the ground again became so much above the surface of the water in the next century, as to be drained and brought into cultivation. South Beveland is about twenty-four miles long, and from six to eight broad, and is the most agreeable of the Dutch Islands. The principal town in it is *Goes*, which carries on a small trade in grain. These islands were in possession of the English during the expedition to Zealand, in 1819.

As the Dutch were for a long time the chief maritime power in Europe, their COLONIES and SETTLEMENTS were very numerous, and were spread nearly over all quarters of the globe. Some of these have now passed into the possession of other powers, but many are yet retained, and most of those which were taken by the English during the last war, have been restored, except the Cape of Good Hope, Demerara, Essequibo, and Berbice. Their settlements in different parts of the world now are—in *Asia*, the island of *Java*, with the governments of *Ambouina*, *Banda*, *Ternate*, *Malacca*, and *Macassar*, as well as the factories on the coast of *Coromandel* and *Persia*.—In *Africa*, they have thirteen small forts on the coast of *Guinea*.—In the *West Indies*, they still possess the islands of *Curaçao*, *St. Eustatius*, and *St. Martin*, with the colony of *Surinam*, on the main-land of *South America*, and the right of sending stores and receiving produce from *Demerara*, *Essequibo*, and *Berbice*, though the colonies themselves are subject to the English.

CHAPTER V.

Statistical and Synoptical Tables.

TABLE I.

Number of Vessels that arrived from various ports at Amsterdam, Antwerp, and Flushing, in 1817.

AMSTERDAM.

From	ships.	From	ships.	From	ships.
Archangel	70	Havre	16	Memel	85
Bremen	71	Hull	30	New York	13
Copenhagen	16	Husum	16	Petersburgh	169
Dantzic	141	Itzehoe	80	Pillau	69
Dramme	72	Kiel	56	Riga	323
Drontheim	12	Konigsberg	196	Rostock	30
Elbingen	80	Liebau	16	Stettin	18
Emdden	33	Lisbon	23	Surinam	21
Frederickstadt	10	Leghorn	99	Swenburg	59
Gluckstadt	12	London	87	Wisnar	12
Hamburg	143	Lubeck	25		

The whole number that arrived during the year, including those not in the above list, was 3077. The number that entered the port of *Antwerp* was 999, and of *Flushing* 844, more than one-fourth of which were British.

TABLE II.

Latitudes and Longitudes of the principal places in the Kingdom of the NETHERLANDS.

The Latitudes are all *North*, and the Longitudes *East*.

Names of Places.	Latitudes.			Longitudes.			Names of Places.	Latitudes.			Longitudes.		
	°	'	"	°	'	"		°	'	"	°	'	"
AMSTERDAM	52	22	17	4	17	30	Harlingen	53	10	32	5	24	47
Antwerp	51	13	6	4	24	10	Helder	53	2	0	4	43	6
Arnheim	52	0	0	5	37	0	Helvoetsluys	51	49	29	4	7	53
Bergen op-Zoom	51	52	0	4	8	0	Hoorn	52	40	0	5	0	0
Bois le Duc	51	40	0	5	9	0	Leyden	52	9	30	4	29	15
Breda	51	35	23	4	45	36	Liège	50	39	0	5	31	0
Briel	51	54	15	4	9	51	Limburg	50	58	0	6	5	0
Bruges	51	12	33	3	13	53	Louvain	50	53	26	4	41	46
BRUSSELS	50	50	59	4	22	15	Luxemburg	49	37	0	6	9	0
Camperdown	51	33	0	4	35	0	Maestricht	50	48	0	5	43	0
Catwyck	52	12	0	4	22	0	Middleburg	51	30	6	3	37	30
Charleroi	50	26	0	4	32	0	Mons	50	27	2	3	57	15
Courtray	50	49	43	3	16	6	Namur	50	28	30	4	51	7
Damme	51	15	10	3	17	0	Nimeguen	51	51	20	5	50	51
Delft	52	0	49	4	21	45	Ostend	50	44	52	2	15	12
Dendermond	51	1	0	4	20	0	Ramekins	51	21	0	3	40	0
Doesburg	52	2	0	6	8	0	Ramillies	50	39	0	5	10	0
Dort	51	48	54	4	39	42	Rotterdam	51	55	22	4	29	11
Fleurus	50	30	0	4	40	0	Ryswick	52	2	0	4	24	0
Flushing	51	20	0	3	35	0	Texel	53	5	0	4	40	0
Fontenoy	50	30	0	3	32	0	Tournay	50	35	0	3	28	0
Franecker	53	11	0	5	33	0	Ulrecht	52	5	31	5	7	16
Gemappe	50	28	0	3	59	0	Walcheren	51	30	0	3	35	0
Ghent	51	3	21	3	43	50	Williamstadt	51	39	0	4	30	0
Groningen	53	12	0	6	35	0	Ypres	50	51	0	2	48	0
Haarlem	52	22	26	4	38	19	Zutphen	52	10	0	6	18	0
Hague	52	4	50	4	18	47	Zwolle	52	33	0	6	10	0
Harderwyk	52	22	0	5	34	9							

MONIES, WEIGHTS, MEASURES, AND EXCHANGES.

MONIES.

The money of the Netherlands is of two kinds, the one *national*, the other *private*. By the laws of the Netherlands, the decimal system is in force throughout the kingdom. By this law the money of the state consists of *legal coins* of gold, silver, and copper, and of *coins for the use of commerce*, which are of gold and silver. The unit of money is the Florin. The gold piece of ten Florins, with the subdivisions of the Florin in silver, and the copper money, can only be coined for government; the other money mentioned below, may be coined on the account of private persons. The money formerly in use, both in the northern and southern provinces, still continues to circulate, as before their union into one kingdom.—The value of these monies is either *currency* or *banco*. Commercial transactions are carried on in currency; while the banking business and the exchanges are transacted in *banco*, which is from four to five per cent better than currency.

Monies of Account.

Accounts are still kept by some persons in Holland, in Dutch currency of Florins, Stivers, and Pfennings, and by others in the southern provinces, in Pounds, Shillings, and Pence, or Grotes Flemish.

The following are the proportions of these denominations, with their usual English values.

		s.	d.
8 Pfennings	are 1 Grote, equal to	0	0 10 5 17
2 Grotes	..... 1 Stiver	0	0 8 10 9
8 Stivers	..... 1 Shilling	0	6 18 7 5
3 1/2 Shillings	..... 1 Florin	1	9 6 2 5
2 1/2 Florins	..... 1 Rixdollar	4	6 9 6 2 5
20 Shillings 6 Florins,	} 1 Pound Flemish	10	9 7 5
or 2 1/2 Rixdollars			

The Florin of exchange of Brabant, passes for an equal value with the Florin of the Netherlands.

Coins.

Gold.	Intrinsic value.
	s. d.
Piece of 10 Florins, equal to	16 10 1
Ducat	9 4
Silver.	
Piece of 3 Florins, equal to	5 3 1
Florin	1 3 1
Half ditto 50 Cents	0 19 1
Ducat	5 3 1

There are also quarter Florins, and pieces of ten and five Cents, with *copper* coins of *Cents* and *Half Cents*. The coins formerly in use, either as coin of the state, or of individual provinces, still continue to circulate, as well as the ancient French money, and are received in the treasury.

COMMON WEIGHTS.

Gold and Silver Weight.

Gold, silver, pearls, and diamonds are weighed by the Mark Troy and its subdivisions, which are,

	English grains.
1 Engel is equal to	0 7 4 1 6
32 Ases are 1 Engel	23 7 3 1 2 5
20 Engles ... 1 Ounce	47 4 6 2 5
8 Ounces ... 1 Mark	37 9 7 5
2 Marks 1 Pound Troy	75 9 5

One hundred and thirty-five pounds Dutch Troy, are therefore equal to 178lbs. English Troy weight.—In weighing pearls and diamonds, the Troy Mark is divided into 1200 Carats, each Engel is consequently equal to 7 1/2 Carats.

Commercial Weights.

In commercial transactions

	Avoir. lbs.
8 Ounces are 1 Mark, equal to	0 5 4 4 6 5
2 Marks 1 Pound	1 0 8 9 3
8 Pounds 1 Stone	8 7 1 1 4
15 ditto 1 Lispond	16 3 3 9 5
100 ditto 1 Centner	108 9 3
300 ditto 1 Shippound	326 7 9

A ton of Leyden butter is ... 320 Dutch lbs.
A Vierendel of this is ... 80lbs.
Of Com. Hollands butter the Vier. 84lbs.
A Friesland Ton is ... 328lbs.

In weighing iron, yarn, silk, and several other articles, the *Antwerp* weight is used, which is about 5 per cent. lighter than that of Amsterdam.

USUAL MEASURES.

Corn Measure.

		Winch. bushels.
6 Koops	are 1 Vierdevat, equal to	0.192125
4 Vierdevats	1 Scheffel	0.7685
3 Scheffels	1 Sack	2.3055
1½ Sacks	1 Mudden	3.074
1½ Mudden	1 Ton or barrel	3.8425
27 Mudden	1 Last	85

A bag of seed is equal to 20

In some parts of Holland, the corn measure differs from that used at Amsterdam, as given above. At Antwerp the corn measure is the Viertel; and there

	1 Mucken, equal to	0.64615
4 Muckens are	1 Viertel	— 2.5846
32½ Viertels	1 Last	— 84

Long Measure.

		Eng. Feet. Inches.
11 Inches } 3 Palms }	are 1 Foot,	equal to 0 11½
12 Inches	1 Rhineland foot	1 0½
A Dutch Ell	.. .. .	2 35
A Flemish Ell	.. .. .	2 4
6 Feet	1 Fathom, equal to	5 7
13 Feet	1 Ruthe	12 1½

A Mile is 6412 Eng. feet, or nearly 3½ Eng. miles.

The Brabant Ell is used in most of the Belgic provinces, and 100 of these ells are equal to 76 English yards. Woollens are generally measured by the Antwerp ell, 100 of which are equal to 74½ English yards.—Also 100 feet of Antwerp are 93 feet English.

Liquid Measure.

		Eng. wine gallons.
2 Pints	are 1 Mingel, equal to	0 ⁸¹ / ₁₂₈
2 Mingels	1 Stoop	1 ½
3½ Stoops	1 Viertel	3 ½
2½ Viertels	1 Steckhan	10½
2 Steckhans	1 Anker	20½
2 Ankers	1 Aam	40½

A Hogshead of French wine	is 180 Mingels, equal to	114
A Pipe of Spanish wine	... 310 ditto	215½
A Hogshead of Brandy	... 30 Viertels	115
A Barrel or Aam of Beer	.. 128 Mingels	81½
An Aam of vegetable oil	... 120 ditto	76
... of Whale oil	... 16 ditto	10 ½
An Anker of Rum	... 2 Steckhan	20½

These are the measures by which the sales are made and the liquids gauged; but with respect to the vessels they are often merely nominal.

Square Measure.

		English
1 Square Foot, is 144 Square Inches,	or 12½ Inches	
1 Square Ruthe	169 Square Feet	146 114 6 Feet
100 Ruthes	1 Line of land	1623 58425 Yds.
300 Ruthes	1 Juchert	4870 15275 ditto
500 ditto	1 Maat	8116 92125 ditto
600 ditto	1 Morgen	9740 3055 ditto

or two English acres one Perch.

The cubic foot is 13.31 cubic inches equal to 13384 English cubic inches. The other measures in proportion but they are little used.

EXCHANGES.

(December 1826.)

Bills upon this kingdom are generally drawn upon either Amsterdam or Antwerp. The present rates of Exchange between these places and the other principal commercial towns of Europe, are the following,

AMSTERDAM.

Exchanges with, and gives,

Antwerp	100 Florins	for 100 Florins
Augsburg	35½ Stivers	1 Rixdollar
Frankfort	35½ ditto	1 ditto
Genoa	85 Grotes Flemish	1 Pezza
Hamburg	35 Stivers	2 Marks
Leghorn	95 Grotes Flemish	1 Dollar
Lisbon	40 ditto	1 Crusade
London	40 Shillings Flem.	£1 Sterling
Madrid and Cadiz	96 Grotes Flemish	1 Ducat
Paris	56 ditto	3 Francs
Vienna	55 Stivers	1 Rixdollar

ANTWERP.

Exchanges with, and gives,

Amsterdam	100 Florins	for 100 Florins
Augsburg	34 Stivers	1 Rixdollar
Frankfort	35 ditto	1 ditto
Genoa	84 Groter	1 Pezza
Hamburg	34 Stivers	2 Marks
Lisbon	40 Grotes Flemish	1 Crusade
London	40 Shillings	£1 Sterling
Madrid and Cadiz	94 Grotes	1 Ducat
Paris	100 Francs	100 Francs
Vienna	34 Stivers	1 Rixdollar

EXTRACTS FROM THE ACTS OF CONGRESS,

IN FAVOUR OF THE KINGDOM OF THE NETHERLANDS.

From the Treaty between the King of the Netherlands, Prussia, England, Austria, and Russia, signed 31st of May, 1815.

ARTICLE I.—“ The old United Provinces of the Netherlands, and the former Belgic Provinces, both within the limits fixed by the following Articles, shall form, together with the countries designated in the same Article, under the sovereignty of His Royal Highness the Prince of Orange-Nassau, Sovereign Prince of the United Provinces, the Kingdom of the Netherlands; hereditary in the order of succession already established by the Act of the Constitution of the said United Provinces, His Majesty the Emperor of Austria, King of Hungary and Bohemia, acknowledges the title and prerogatives of the royal dignity in the house of Orange-Nassau.”

ARTICLE II.—“ The line comprising the territories which shall compose the kingdom of the Netherlands, is determined in the following manner :

“ It leaves the sea, and extends along the frontiers of France on the side of the Netherlands, as rectified and fixed by the third Article of the Treaty of Paris, of the 30th May, 1814, to the Meuse; thence along the same frontiers to the old limits of the duchy of Luxemburg: from this point it follows the direction of the limits between that duchy and the old bishoprick of Liege, till it meets (to the south of Drifelt) the western limits of that canton, and of that of Malmedy, to the point where the latter reaches the limits between the old departments of the Ourthe and the Roer; it then goes along these limits to where they touch those of the former French canton of Eupen, in the duchy of Limburg, and following the western limit of that canton in a northerly direction, leaving to the right a small part of the former French canton of Aubel, joins at the point of contact of the three old departments of the Ourthe, the Lower Meuse, and the Roer; parting again from this point, this line follows that which divides the two latter departments, until it reaches the Worm, (a river falling into the Roer) and goes along this river to the point where it again reaches the limit of these two departments, pursues this limit to the south of Hillensberg (the old department of the Roer) from whence it reascends to the north, and leaving Hillensberg to the right, and dividing the canton of Sittard into two nearly equal parts, so that Sittard and Susteren remain on the left, it reaches the old Dutch territory; from whence, leaving this territory to the left, it goes on following its eastern frontier, to the point where it touches the old Austrian principality of Gueldres, on the side of Ruremonde; and, directing itself towards the most eastern point of the Dutch territory to the north of Swalmen, continues to encircle this territory.

“ Lastly, setting out from the most eastern point, it joins that other part of the Dutch territory in which Venloo is situated; that town and its territory being included within it. From thence to the old Dutch frontier near Mook, situated below Genep, the line follows the course of the Meuse at such a distance from the right bank, that all the places within a thousand Rhenish yards from it, (*Rheinlandische Ruthen*) 1970 of which yards are equal to the 15th part of a degree of the meridian, shall belong, with their territories, to the kingdom of the Netherlands: it being understood, however, as to the reciprocity of this principle, that the Prussian territory shall not at any point touch the Meuse, or approach it within the distance of eight hundred Rhenish yards.

“ From the point where the line just described reaches the ancient Dutch frontier, as far as the Rhine, this frontier shall remain essentially the same as it was in 1795, between Cleves and the United Provinces.

“ This line shall be examined by a Commission, which the Governments of Prussia and the Netherlands shall name without delay, for the purpose of proceeding to the exact determination of the limits, as well of the kingdom of the Netherlands as of the Grand Duchy of Luxemburg, specified in the 4th Article; and this commission, aided by professional persons, shall regulate every thing concerning hydrotechnical constructions and other points, in the most equitable manner, and the most conformable to the mutual interests of the Prussian States, and of those of the Netherlands. This same arrangement refers to the fixing of limits in the districts of Kyfwaerd; Lobith, and in the whole territory as far as Kekerdom.

“ The *enclaves* of Huissen, Malburg, Lymers, with the town of Sevenaer, and the lordship of Wiel, shall form part of the kingdom of the Netherlands, and His Prussian Majesty shall renounce them in perpetuity for Himself, His heirs and successors.”

ARTICLE III.—“ That part of the old duchy of Luxemburg which is comprised in the limits specified in the following Article, is likewise ceded to the Sovereign Prince of the United Provinces, now King of the Netherlands, to be possessed in perpetuity by Him and His successors in full property and sovereignty. The Sovereign of the Netherlands shall add to His titles that of Grand Duke of Luxemburg, His Majesty reserving to Himself the privilege of making such family arrangements between the princes His sons, relative to the succession of the Grand Duchy, as He shall think conformable to the interests of His monarchy and His paternal intentions.

“ The Grand Duchy of Luxemburg being intended as an indemnity for the principalities of Nassa-Dillenburg, Siegen, Hadamar, and Dietz, shall form one of the States of the Germanic Confederation, and the Prince, King of the Netherlands, shall form a part of the system of this Confederation, as Grand Duke of Luxemburg, with all the prerogatives and privileges which the other German princes might enjoy.”

ARTICLE IV.—“ The Grand Duchy of Luxemburg shall consist of all the territory situated between the kingdom of the Netherlands, such as it has been designated by Article 2, France, the Moselle, as far as the mouth of the Sure, the course of the Sure, as far as the junction of the Our, and the course of this last river, as far as the limits of the former French canton of St. Vith, which is not to belong to the Grand Duchy of Luxemburg.”

KINGDOM OF FRANCE.

CHAPTER I.

Name—Situation—Boundaries—Extent—Population—Original Inhabitants—Progressive Geography—Present Division and Distribution of the Inhabitants.

THE ancient Name of this division of Europe was GAUL; but the modern appellation was derived from the *Franks*, or *Free-men*, a race of Germans. About the year 240, a confederacy was formed by some German tribes under the title of Franks, who, at that time, presented a formidable barrier to the Roman armies. These tribes not only threatened the invasion of Gaul, but made Spain and Africa, tremble at their presence; and when the throne of Valentinian was powerfully assaulted by Attila, the Franks gained possession of a part of Gaul, gave their name to the country, and established the hereditary succession of the monarchy in the Merovingian race of kings.

France occupies a large and compact territory in the south-west of Europe, stretching from about the 43d to the 51st degree of north latitude, and from the 5th of west, to the 8th degree of east longitude, from the first meridian of Britain. France is BOUNDED by the Atlantic ocean on the west, Spain and the Mediterranean on the south; Savoy, Switzerland, and Germany, on the east; and the kingdom of the Netherlands and the German or British sea on the north. Its EXTENT from north to south is about 560 English miles, and from east to west nearly 650. The whole area is 204,000 English square miles. The present population is about 29,350,000; and, consequently, the number of persons to each square mile is nearly 144. France is, therefore, much less populous than either England or Ireland, as the former contains about 190 and the latter 170 persons on the same space.

As no anterior people can be traced, the *Celts* must be considered as the ORIGINAL INHABITANTS of Gaul. These were subsequently increased by the *Aquitani*, who were of African descent, and passed from Spain into the south-western regions of Gaul. The warlike tribes of Germany also pressed upon the north-east, and over-ran a great part of the country, into which they introduced the Belgic, or Gothic language and manners. Other tribes or colonies succeeded. The Franks became the reigning people and greatly augmented the previous population.

France has, at all times, acted a conspicuous part on the theatre of European nations; and its PROGRESSIVE GEOGRAPHY, therefore, presents an interesting topic. —The geography of this part of Europe was first illustrated by the Romans; but the *Gallia* of that people contained a much greater extent of territory than belongs to modern France. Under that name, *Gallia Cisalpina*, and *Gallia Transalpina*, were included. The former was wholly on the south of the Alps;

FRANCE in Departments

BRITAIN

- 1 Alsace
- 2 Anjou
- 3 Artois
- 4 Aunis
- 5 Bourgogne
- 6 Bretagne
- 7 Champagne
- 8 Charente
- 9 Cevennes
- 10 Combraille
- 11 Flandre
- 12 Gascogne
- 13 Guienne
- 14 Ile de France
- 15 Languedoc
- 16 Limousin
- 17 Lyonnais
- 18 Maine
- 19 Normandie
- 20 Picardie
- 21 Poitou
- 22 Provence
- 23 Rhodan
- 24 Roussillon
- 25 Saintonge
- 26 Savoie
- 27 Seignurie
- 28 Toulousain
- 29 Touraine
- 30 Val de Loire
- 31 Vexin
- 32 Vienne
- 33 Vivarais
- 34 Zuyvis
- 35 Alsace
- 36 Anjou
- 37 Artois
- 38 Aunis
- 39 Bourgogne
- 40 Bretagne
- 41 Champagne
- 42 Charente
- 43 Cevennes
- 44 Combraille
- 45 Flandre
- 46 Gascogne
- 47 Guienne
- 48 Ile de France
- 49 Languedoc
- 50 Limousin
- 51 Lyonnais
- 52 Maine
- 53 Normandie
- 54 Picardie
- 55 Poitou
- 56 Provence
- 57 Rhodan
- 58 Roussillon
- 59 Saintonge
- 60 Savoie
- 61 Seignurie
- 62 Toulousain
- 63 Touraine
- 64 Val de Loire
- 65 Vexin
- 66 Vienne
- 67 Vivarais
- 68 Zuyvis



the latter comprised modern France, with Belgium, and that part of Germany on the west of the Rhine. According to the statement of the Abbey du Fresnoy, Gallia Transalpina, was bounded on the south, by the Pyrenees, the Mediterranean, and the Var; on the east by the Alps and the Rhine; on the north by the same river, and on the west by the sea. The first division of the country adopted by the Romans, was into three great provinces, and was derived from the people by whom it was then inhabited. These were *Gallia Celtica*, *Gallia Belgica*, and *Gallia Aquitania*. The first of these was encompassed by the Seine, the Marne, the Saone, the Rhine, and the Garonne; the second was bounded by the Seine, the Marne, the mountains of Vosges, the Rhine, and the ocean; and the third was surrounded by the Garonne, the ocean, and the Pyrenees. Augustus afterwards divided Gaul into four parts; and the *Notitia Imperii*, that was made in the fourth century, supplies a new division of this country, which was then composed of five great provinces. They were Lugdunensis, Belgica, Germania, Vienensis, and Aquitania; each of which was sub-divided into several districts. The emperor Constantine subsequently divided Gaul into seventeen provinces. Six were Consular, and the others, under the superintendence of presidents, who resided in their principal cities. These provinces, with their chief towns, were,

<i>Provinces.</i>	<i>Chief Towns.</i>		<i>Provinces.</i>	<i>Chief Towns.</i>
1. Narbonnensis prima,	Narbonne	||	10. Sequania	Besançon
2. Narbonnensis secunda	Aix		11. Aquitania prima	Boutges
3. Vienensis	Vienne		12. Aquitania secunda	Bordeaux
4. Alpes Graiæ et Penninæ	Moustenon		13. Novempopularia	Auch
5. Alpes Maritimæ	Embrun	"	14. Germania prima	Mentz
6. Lugdunensis prima	Lyons		15. Germania secunda	Cologne
7. Lugdunensis secunda	Rouen		16. Belgica prima	Triers
8. Lugdunensis tertia	Tours		17. Belgica secunda	Rheims
9. Lugdunensis quarta	Sens	||		

When the Franks became the ruling power, the Roman divisions gradually disappeared and new ones were substituted. Several kingdoms were afterwards comprised within the present territorial limits, the divisions and sub-divisions of which would be as tedious as it is unnecessary to trace. Some of the French historians and geographers think that under the *Merovingian* dynasty, France had nearly the same limits as at present; that under the *Carlovingian* race of kings, almost the whole was wrested from the sovereign by the prevalence of the feudal system; and that during the *Capetian* dynasty, the greater part was recovered.

Without specifying the particular conquests and restorations on the northern frontiers, which had so frequently occurred during two centuries before the revolution, it will be sufficient to observe, that prior to that event, the French territory was divided into 32 provinces, and these again into smaller districts. The consequence of this revolution was, that vast territorial possessions were added to the ancient French monarchy; until Napoleon could boast that his empire rested with "its right on the Baltic, and its left on the Mediterranean." This aggrandisement was accomplished by the following circumstances. The peace of *Lunerville*, which was concluded with Austria and the German empire on the 9th of February, 1801, made the Rhine the boundary between France and Germany, and the Adige between the Austrian territories in Italy, and the Cisalpine republic. By the peace of Tilsit, concluded on the 7th of July, 1807, the Ionian Islands were resigned to France. Etruria was incorporated with France on the 30th of the following May. The Papal territories were annexed to France on the 17th of May, 1809; and by the peace of *Vienna*, concluded on the 14th of

October, of the same year, the *Illyrian* provinces, on the right bank of the Save, were ceded by Austria. In 1810, the annexation of Holland took place, as well as of the Hanse towns of Hamburg, Lubeck, and Bremen, with the north-western district of Germany, within a line from Wesel on the Rhine, to Lauenbourg on the Elbe. The Valais was also united to France in the November of that year. The following summary affords a clear view of the territory and population acquired by France, from the commencement of the revolution to the peace of Paris, in 1815.

<i>Dates.</i>	<i>Territories.</i>	<i>Extent in sq. miles.</i>		<i>Population.</i>
1801..	Department of Montblanc (four-fifths), Leman, Maritime Alps, with Venaissain, Montebiliard, and other enclaves }	4,710	.....	825,000
	Austrian and Dutch Netherlands	10,000	.....	2,150,000
	Bishopric of Liege, part of the archbishoprics of Cologne, Treves, Mentz, Duchy of Juliers, Palatinate, Movers, and Guelderland..... }	12,600	.....	2,050,000
1802..	Piedmont..... }	26,600	.....	5,103,000
1806..	Genoa and Tuscany			
1808..	Parma			
1810..	Roman states and the Valais	36,500	.....	4,530,000
	Holland, Bremen, Hamburg, Lubeck, part of Hanover, Oldenburg, Munster, and Osnaburg			
	Illyrian provinces including Venetian Dalmatia	19,300	.....	1,372,000
	Total....	109,810	.....	16,057,000
	Territory and population of old France in 1812	201,000	.....	28,500,000
	Extent and subjects of the empire.....	313,810	.....	44,557,000

To this summary may be annexed the states that were in a great measure dependent upon France, and under the immediate controul of the Emperor, viz.

<i>Provinces.</i>	<i>Extent in sq. miles.</i>		<i>Population.</i>
1. The <i>Kingdom of Italy</i> . This was first the Cisalpine republic, and consisted of Austrian Lombardy, with a district of Sardinia, the Bergamesco, Bresciano, Modena, Massa, Carara, Bologna, and Romagna, to which the Venetian territories in Italy were added in 1805, and the remainder of the Roman states east of the Apennines, in 1808..... }	31,000	.....	6,350,000
2. The <i>Confederation of the Rhine</i> . This was formed in 1806, and received several subsequent augmentations, till it included nearly all the smaller states of Germany. In 1812, it comprised 22 members exclusive of France	113,000	.....	14,000,000
3. The <i>Kingdom of Naples</i> , including the two Sicilies.....	30,500	.....	4,963,500
Total....	174,500	.....	25,313,500
Within the limits of the empire, as above.....	313,810	.....	44,557,000
Under the immediate controul of Buonaparte ..	488,310	.....	69,870,500

The empire was now at its height. Success had transformed the natural passion of the French for glory, into a military phrenzy, upon which Buonaparte attempted to erect the fabric of universal empire. Russia was invaded by his legions, and India was to have crowned his conquests. To accomplish this, he left St. Cloud on the 9th of May, 1812, crossed the Niemen on the 24th of June, and entered blazing Moscow on the 14th of September, the flames of which put a period to his victorious career. Unable to subsist amidst the ashes of that devoted

city, he quitted the Kremlin on the 19th of October, dated his 29th bulletin. Molodetchno, December 3d, abandoned his army at Smorgonie, on the 6th, and fleeing *incognito*, through Poland and Germany, as if pursued by the Cossacks, and haunted by the shades of the dead and the cries of the dying, arrived at Paris at midnight of the 18th of the same month. The ambition of the French was still restless and unsatisfied; and the defeats of the following year caused the Allies to enter France towards its close. They arrived before Paris on the 29th of March, 1814, stormed the heights of *Belville* and *Montmartre* on the 30th, and entered Paris on the 31st. Buonaparte was deposed, and France, by the general peace of Paris, signed on the 30th of May, was reduced to the boundaries of 1792, with the additional department of Vaucluse, part of Montblanc, and some other frontier district. She likewise recovered all her colonies except the Isle of France, Tobago, St. Lucia, and St. Domingo. The name of Emperor was abolished and that of king restored in the person of Louis XVIII. Prior to this event the French empire was divided into 112 Departments; but the territories that composed twenty-six of them were then relinquished, and the remaining eighty-six, are comprised in the thirty-two ancient provinces, with the more recent acquisitions; and which, with their present population and chief towns, are

NORTHERN PROVINCES AND DEPARTMENTS.

<i>Provinces.</i>	<i>Departments.</i>	<i>Population.</i>	<i>Chief Towns.</i>	<i>Inhabitants.</i>
1. French Flanders ..	1. Nord	837,386	Lille	61,509
2. Artois	2. Pas de Calais ..	570,338	Arras	29,008
3. Picardy	3. Somme	495,008	Amiens	40,000
4. Normandy	4. Seine-Inferieure..	642,948	Rouen	84,000
	5. Eure	424,484	Evreux	9,238
	6. Calvados	505,420	Caen	35,008
	7. Manche	581,429	St. Lo	7,087
	8. Orne	425,920	Alençon	12,234
5. Isle of France	9. Seine	657,170	Paris	715,000
	10. Seine and Oise ..	430,972	Versailles	26,037
	11. Seine and Marne ..	304,068	Meun	6,680
	12. Oise	383,507	Beauvais	12,791
6. Champagne	13. Aisne	442,909	Laon	7,000
	14. Marne	344,917	Châlons-sur-Marne	10,784
	15. Ardennes	251,589	Mezieres	5,387
	16. Aube	238,309	Troyes	26,702
	17. Upper Marne	257,785	Chaumont	5,872
7. Lorraine	18. Meuse	284,703	Bar-le-Duc	9,803
	19. Moselle	349,697	Metz	37,272
	20. Meurthe	365,810	Nancy	30,000
	21. Vosges	334,169	Epinal	7,520
8. Alsace	22. Lower Rhine	439,275	Strasbourg	19,902
	23. Upper Rhine	336,940	Colmar	14,115

CENTRAL PROVINCES AND DEPARTMENTS.

9. Brittany	24. Ile and Vilaine ..	508,344	Rennes	28,600
	25. Côtes-du-Nord ..	519,620	St. Brieux	8,750
	26. Finistere	452,895	Quimper	6,639
	27. Morbihan	403,423	Vannes	10,605
	28. Loire-Inferieure ..	407,827	Nantes	75,128
10. { Maine and part of	29. Sarthe	410,380	Le Mans	18,533
	30. Mayenne	332,253	Laval	15,000
14. Anjou & Saumurois	31. Maine and Loire ..	404,489	Angers	28,927
12. Touraine	32. Indre and Loire ..	275,071	Tours	21,196
	33. Loiret	285,395	Orleans	41,948
Orleans	34. Eure and Loir ..	265,996	Chartres	15,000
	35. Loir and Cher, ...	213,482	Blois	13,054

<i>Provinces.</i>	<i>Departments.</i>	<i>Population.</i>	<i>Chief Towns.</i>	<i>Inhabitants.</i>
14. Berry	36. Cher	228,158	Bourges	16,352
	37. Indre	204,621	Chateauroux	8,423
15. Nivernais	38. Nièvre	232,263	Nevers	11,878
	39. Yonne	326,324	Auxerre	11,295
16. Bourgogne	40. Côte-d'Or	355,436	Dijon	21,612
	41. Saône and Loire ..	471,457	Macon	10,438
	42. Ain	322,077	Bourg	7,303
	43. Upper Saône	300,156	Vesoul	5,448
17. Franche Comté ..	44. Doubs	240,550	Besançon	28,172
	45. Jura	292,883	Lons-le-Saulnier ..	7,074
	46. Vienne	253,048	Poitiers	21,124
18. Poitou	47. Deux-Sèvres	254,105	Niort	14,516
	48. Vendée	268,746	Bourbon-Vendée ..	
19. { Annis and part of Saintonge	49. Charente-Inférieure.	392,898	La Rochelle	18,346
20. { Marche, Upper Li- mousin, and part of Upper Poitou }	50. Creuse	226,224	Gueret	3,358
21. Bourbonnais	51. Allier	260,266	Moulins	13,813

SOUTHERN PROVINCES AND DEPARTMENTS.

22. { Angoumois and part of Saintonge }	52. Charente	326,885	Angoulême	11,744
23. Limousin	53. Upper Vienne	243,195	Limoges	21,025
	54. Corrèze	254,271	Tulle	9,051
24. Auvergne	55. Cantal	254,436	Aurillac	10,332
	56. Puy-de-Dôme	542,834	Clermont	30,379
25. Lyonnais	57. Rhône	340,980	Lyons	100,000
	58. Loire	315,858	Montbrison	5,218
26. Dauphiny	59. Isère	471,660	Grenoble	21,350
	60. Upper Alps	124,763	Gap	8,598
	61. Drome	253,302	Valence	8,057
	62. Dordogne	424,113	Perigueux	6,113
	63. Gironde	514,462	Bordeaux	99,000
	64. Lot and Garonne ..	326,127	Agen	11,036
27. { Guyenne and Gascony	65. Lot	268,149	Cahors	11,116
	66. Aveyron	331,373	Rhodes	6,613
	67. Gers	286,497	Auch	9,000
	68. Landes	240,146	Mont-de-Marsan ..	4,500
	69. Upper Pyrenees ..	198,763	Tarbes	7,939
28. Bearn	70. Lower Pyrenees ..	383,502	Pau	9,000
29. { Foix and part of Languedoc .. }	71. Ariège	222,827	Foix	3,600
30. Roussillon	72. Eastern Pyrenees ..	126,626	Perpignan	12,500
	73. Upper Garonne	367,551	Toulouse	48,170
	74. Tarn	295,885	Albi	9,806
	75. Tarn and Garonne ..	230,524	Montauban	24,591
31. Languedoc	76. Aude	230,993	Carcassonne	15,178
	77. Hérault	299,399	Montpellier	32,811
	78. Gard	322,144	Nismes	38,955
	79. Ardèche	290,833	Privas	3,000
	80. Lozère	113,247	Mende	5,752
	81. Upper Loire	268,202	Le Puy	12,069
32. Provence	82. Mouths of the Rhone	293,235	Marseilles	111,217
	83. Lower Alpes	146,944	Digne	3,370
	84. Var	283,296	Draguignan	7,862
33. Isle of Corsica ..	85. Corsica	174,702	Ajaccio	9,845
34. { County of Venais- sin, Orange, &c. }	86. Vaucluse	205,832	Avignon	23,211

The above population of the provinces is taken from the list by which the 40,000 men to be raised by the conscription in 1817 was proportioned among the several departments. The total is 28,968,043; but the increase which has taken place since that period, has raised this number to that stated at the beginning of the present Chapter. Every department is divided into arrondissements: each of these into cantons, and each canton into communes. A commune is sometimes composed of a single town, and sometimes of several villages. The large cities are also divided into several communes, each of which has its mayor and municipality. The number of these respective divisions are,

Departments (including Corsica, &c.).....	86
Arrondissements	368
Cantons.....	3,669
Communes.....	38,990

In reference to the military department of the government, France is divided into 22 provinces, each containing a certain number of the civil departments, and which are under the command of a general, who is stationed at a central town, whence the division or province commonly derives its name. These towns, with the department included in each division, are,

<i>Resident Towns.</i>	<i>Departments in each Division.</i>
1. Paris.....	Seine, Seine and Ouse, Aisne, Seine and Marne, Oise, Loiret, Eure and Loire.
2. Chalons.....	Ardennes, Meuse, Marne.
3. Metz.....	Moselle.
4. Nancy.....	Murthe, Vosges.
5. Strasburg.....	Upper Rhine, Lower Rhine.
6. Besancon.....	Upper Saone, Doubs, Jura and Ain.
7. Grenoble.....	Isere, Drôme, Upper Alps.
8. Marseilles.....	Lower Alps, Vaucluse, Mouths of the Rhone, Var.
9. Montpellier.....	Ardeche, Gard, Lozere, Herault, Tarn, Aveyron.
10. Toulouse.....	{ Aude, Eastern Pyrenees, Ariège, Upper Garonne, Upper Pyrenees, Gers, Tarn, and Garonne.
11. Bordeaux.....	Lower Pyrenees, Landes, Gironde.
12. Rochelle.....	Charente-Inferieure, Deux-Sevres, Vendee, Loire-Inferieure, Vienne.
13. Rennes.....	Ile and Villaine, Morbihan, Finistere, Côtes du Nord.
14. Caen.....	Manche, Calvados, Orne.
15. Rouen.....	Seine-Inferieure, Somme, Eure.
16. Lille.....	Nord, Pas-de-Calais.
17. Dijon.....	Aube, Upper Marne, Yonne, Cote-d'Or, Saone and Loire.
18. Lyons.....	Rhone, Loire, Cantal, Puy-de-Dome, Upper Loire.
19. Périgueux.....	Correze, Lot, Lot and Garonne, Dordogne, Charente.
20. Bourges.....	Cher, Indre, Allier, Creuze, Nièvre, Upper Vienne.
21. Tours.....	Sarthe, Indre and Loire, Maine and Loire, Mayenne, Loir and Cher.
22. Bastia.....	Corsica.

Various circumstances preclude the population of so wide a country from being equally diffused over its surface. The departments generally vary from 50 to about 200 individuals to each square mile, though a few of them exceed this last number. This, however, chiefly happens when the department is small, and the principal town large.

CHAPTER II.

Outlines—General Surface—Mountains—Rivers—Canals—Lakes—Climate and Seasons—Soil—Culture—Products.

FRANCE is a favoured country in reference to the nature of her **OUTLINES**, being defended by natural barriers on three sides. It is washed by the ocean on the west; defended by the Pyrenees and the Mediterranean on the south, and it has the Alps and the Rhine on the east. It is destitute, however, of natural defence towards the north. With respect to the greater part of its **SURFACE**, it may be denominated a level country. In many places gentle undulations, and agreeable diversities occur; and in others, elevated mountains, and picturesque scenes meet the eye. The principal mountains are in the southern part of the kingdom, chiefly in Auvergne, Languedoc, Dauphiny, and Provence. The range of Vosges intersect Lorraine, but it is much inferior in altitude to the southern ranges. Brittany abounds in extensive heaths, which the French call *Landes*, and La Vendee presents numerous marshes. Some travellers consider Limousin the most beautiful province in France. The western promontory is a hilly country greatly resembling the south-western extremity of England. The general inclination of France is to the west and north-west, for it is in those directions that the principal rivers flow into the sea. The basin of the Rhone, however, which occupies a narrow region in the south-east of the kingdom, inclines to the south, as that river enters the Mediterranean.

Near the centre of the country, in the province of Auvergne, rises the long chain of *Cevennes*, the highest summits of which do not ascend more than 1300 feet above the level of the sea. This ridge stretches towards the south-west till it joins the Pyrenees. The northern part of these mountains is called Côte d'Or. Another branch rises about the 46th degree of latitude, and west of the former chain, with which it unites at the distance of 70 or 80 miles. Puy-de-Dôme, and Mont d'Or, both in the same department, are noted summits, as well as le Plomb du Cantal, south of the other two. These are some of the highest points in the interior of France. On the eastern side of the kingdom, the ridge of *Vosges* runs from the northern confines, nearly parallel to the course of the Rhine, till it joins Mount Jura, one of the advanced guards of the Alps, north of the lake of Geneva. But the grandest natural features which distinguish this kingdom are the Alpine regions that separate it from Switzerland on the south-east. The crown of these towering summits, is Mont Blanc, the highest point in Europe, and so much above the surrounding Alps, that it is illuminated by the sun twenty minutes earlier and later. Being covered with perpetual snow, it may be seen from a great distance, purpling with his eastern light, or crimsoned with his setting glory, while mist and obscurity envelope all the mountains below. The altitude of Mont Blanc is about 15,660 feet.

Mount Jura, a branch of the Alps, divides France from Switzerland. Its chief peaks are Reculet and Dôle. The Pyrenees form a natural boundary between France and Spain, and send forth several ramifications from their northern flanks, which impart a mountainous character to the adjacent departments. The principal heights of this chain, as well as of the Alps, are given under the article

mountains, in Chapter V. of the INTRODUCTION. *Mont Perdu* is the highest point. Its rocks frequently resemble high walls that impede the traveller in his ascent, while his difficulty is increased by the ice, snow, and glaciers, with which it is covered. Its top abounds with marine spoils, and there is a large lake more than 9000 feet above the level of the sea. A few of the most elevated summits in France, exclusively of Mont Blanc and the Pyrenees, are the following, as given by M. Ossude in his *Geographie Statistique de la France*.

	<i>Feet.</i>
Cevennes, the highest summit	1280
Ballon, the most elevated peak of the Vosges ..	4603
Pay-de-Dome	5177
Mont d'Or	6700
Plomb de Cantal	6345
Reulet and Dôle highest points of Jura.	5663

The FORESTS of France are numerous and extensive. They have always been important features in the economy of the country, from the fuel they supply, and the timber they furnish. Various estimates of the extent of these woody tracts have been given by different authors; some of whom make them equal to one-seventh of the kingdom, while others assign a less proportion. M. *Chaptal*, in his late work *De l'Industrie Française*, makes the woods which are,

	<i>Hectares.</i>
Regularly cut for fuel, equal to	6,612,000
Those allowed to grow for timber	460,000
And the chesnut woods	406,000
Total..	7,478,000

Now, as the hectare is to the English acre nearly as two to five, the whole extent of these forests is about 18,700,000 English acres, or 29,220 square miles—an extent nearly equal to the whole surface of Ireland. Some of these forests are very extensive, particularly those of Ardennes, Fontainebleau, and Orleans. In the time of Cæsar, the forest of Ardennes was the largest in France. It extended from the banks of the Rhine to those of the Rhone, but much of both its extremities has been cut down, and part of the remainder is comprised in the kingdom of the Netherlands. The forest of Fontainebleau has also been opened in many places by clearing the wood, but it still spreads over a space of about 25,000 acres. That of Orleans lies on the north of that city and of the Loire. It includes several plains and villages within its circuit. This forest exceeds 15 leagues in length, and is from three to eight in breadth. It contains a great variety of trees, as oak, elm, fir, aspen, &c. Beech woods are also common in some places, particularly in the department of Aisne, where great quantities of oil are made from the mast. Chesnut forests likewise cover a large space in the province of Limousin, the fruit of which is boiled and used as food by the peasants of that and the adjacent districts.

France abounds in RIVERS and Streams, by which its surface is intersected in almost every direction. Its statistical writers state the whole number at more than 7000. Of these, the Rhone, the Seine, the Loire, and the Garonne, are distinguished by their magnitude, and receive most of the others. The RHINE now merely washes the eastern confines of two of the departments. The RHONE is a noble stream when it enters France, soon after quitting the lake of Geneva. It then assumes a southern direction, and after passing the cities of Lyons, Vienne, Valence, Montelimart, Avignon, Beaucaire, Tarascon, and Arles, it enters the Mediterranean, by several mouths, a few miles west of Marseilles.

The **SEINE** is one of the most picturesque rivers in France. It rises in the department of Côte d'Or, and flows through a series of beautiful vallies to Paris. Thence it follows a sinuous course to the English channel, into which it pours the accumulated waters of a great number of tributary streams, and completes a length of about 250 English miles. The principal cities on its banks are Troyes, Melun, Paris, and Rouen. Its general direction is towards the north-west.

The **LOIRE** is a noble river issuing from the western side of the Cevennes, and flowing towards the north for about half its extent. It then winds to the west and falls into the bay of Biscay after a course of more than 450 miles. It receives about 40 of the central rivers of the country, and is navigable for 80 or 90 miles from its mouth. The principal cities to which it affords the advantages of navigation, are Nevers, Orleans, Blois, Tours, Saumur, and Nantes.

The **GARONNE** is a large river which originates in the northern flanks of the Pyrenees, and flows nearly north-west into the bay of Biscay. Most of its course is through a flat country, and its current is therefore destitute of that rapidity which distinguishes the Rhone and some others of the French rivers. It is joined by the *Dordogne* before it reaches the sea, and after the junction is called the **GIROUDE**. It passes Toulouse, Agen, and Bordeaux, below which it opens into a large estuary. Its whole length exceeds 200 miles.

Besides these, there are twenty-five rivers that deserve brief notice. Seven of these are in the northern, eleven in the central, and seven in the southern part of the kingdom. Of those which water the northern departments, the *Somme* falls into the Channel below Abbeville; the *Oise* and the *Marne* enter the Seine; the *Aisne* is tributary to the Oise, and the *Meuse*, the *Moselle*, and the *Scheldt* (l'Escaut) enter the kingdom of the Netherlands.

Among those which intersect the middle of the country, the *Vilaine* discharges its waters into the ocean below La Roche-Bernard. The *Sarthe* and the *Loire*, unite above Angers, and having joined the *Mayenne* at that town, they augment the Loire a little below. These collect their waters on the north of that river. The *Creuse* joins the *Vienne*, which with the *Cher* and the *Indre* enter the Loire from the south. The *Yonne* discharges its contents into the Seine at Montereau. The *Saone* and the *Doubs* unite and afterwards flow into the Rhone.

Of the southern rivers the three which fall into the Garonne are the *Dordogne*, the *Lot*, and the *Tarn*. The *Adour* runs into the sea at Bayonne. The *Allier* discharges itself into the Loire at Nevers, while the *Isere* and the *Durance* both flow into the Rhone.

France contains several important CANALS, by which its internal communication is greatly facilitated. The principal of these are the following *sic*.

THE CANAL DE BRIARE, unites the Loire, near Briare, with the Loing, at Cepoix, where it receives the canal d'Orleans. From this point the canal of Montargis continues the navigation to the Seine. By means of these and the rivers they connect, France may be traversed from north to south, and vessels pass from the Mediterranean to the English Channel. This canal contains 42 locks, and is about 55 miles in length.

THE CANAL DU CENTRE is also known as the *Canal of Charollois*, or of Digoin. It is about twenty French leagues in length, and by means of the Rhone, the Loire, and the Seine, it unites the Mediterranean, the Ocean, and the Channel, whence it is sometimes called the canal of the three seas.

THE CANAL DE LA CÔTE D'OR is likewise called the *Canal de Bourgogne*. It connects the Saone and the Yonne, at a short distance from Joigny; and also unites two other intermediate rivers. Its whole length is about 140 miles.

THE CANAL DE MONTARGIS was constructed in 1720, to continue the naviga-

tion of the Canal de Briare to the Seine, as the Loing was not navigable from Montargis to that river.

THE CANAL D'ORLEANS joins the Loire and the Loing. It commences at the former river, about two leagues above Orleans, and unites with the latter near Montargis. It has thirty locks in a length of about 50 miles, and possesses advantages similar to those of the central canal.

THE CANAL DU MIDI is a noble undertaking. It is also called the *Canal of Languedoc*, and is the most noted in France. It was cut during the reign of Louis XIV. by the Engineer Riquet, under the auspices of the minister M. Colbert. It employed a great number of men for *fifteen* years, and cost nearly half a million. This canal commences at the bay of Languedoc, and enters the Garonne near the city of Toulouse, after a course of 126 miles. Its breadth, including the towing paths, is 144 feet, and its depth about six.

Since the loss of lake Lemane, or the lake of Geneva, France does not contain any LAKES that deserve a particular description in a work of this general nature. There are, however, a few small ones near the foot of the Alps, and among the mountains of Vosges.

In point of CLIMATE, France is deservedly considered as the most favourable country in Europe for the production of all that constitutes the sustenance of man. It varies greatly in different parts; but the air in general is more clear and serene than in England. In reference to climate, France is naturally divided into three distinct regions; the northern, the central, and the southern. The first produces no vines, the second no maize, but the third yields wine, maize, and olives. The direction of these divisions is from south-west to north-east, which shows that the eastern side of the country is more congenial to vegetation than the western. The southern division also displays the increased influence of solar heat in the scantiness of its verdure during the summer and autumnal months.

The extent of the country is sufficient to cause a great variety in the temperature of its incumbent atmosphere. The mean heat of the year is nearly the same at Paris as at London; but the summer is hotter, and the winter colder, in the former than in the latter city. The proportion in both cases is about 1·03 or 1·04 to 1. The greatest heat experienced at Paris, which was found by taking the mean of a number of observations, is about 92° of Fahrenheit, and the usual cold nearly 16°. The following temperatures of various parts of the kingdom are given by M. Herbin in his *Statistique de la France*. Each of them is the mean of a series of observations continued for several successive years.

Height of the Fahrenheit's Thermometer.

<i>Places.</i>	<i>Greatest.</i>		<i>Least.</i>		<i>Mean of the Year.</i>
Paris	92·75	....	16·25	....	53·6
Dunkirk	84·2	....	13·8	....	51·57
Nancy	86·7	....	10·66	....	52·00
Besançon	87·15	....	14·0	....	52·25
Mont Lien	92·75	....	12·4	....	49·8
Brest	86·0	....	18·5	....	51·05
Bordeaux.....	92·3	....	25·25	....	56·97
Montpellier....	95·22	....	23·47	....	59·45
Marseilles	88·92	....	25·02	....	58·55

The quantity of rain that annually falls in Paris is very nearly the same as in London; the average in both places being between 21 and 22 inches. The mean quantity for the whole of France is about twenty-one inches. At Marseilles it is 22·5 inches; at Bordeaux 26; and at Montpellier nearly 30 inches. The rains are

much heavier near the shores of the Mediterranean, than either on the coasts of the Atlantic, or in the interior; for at Paris it has been found that the average number of rainy days in the year is 164; at Brest and at Bordeaux 150; but at Montpellier only 74, and at Marseilles 57; though much more rain falls at these latter places than at the former.

M. Cotte made numerous observations on the state of the winds at eighty-six different places in France; and from these it appears that along the whole south coast of that kingdom, the wind blows most frequently from the north, north-east, and north-west. On the western coast the prevailing winds are from the west, south-west, and north-west. In the interior different winds prevail according to local circumstances. The weather is in general more settled, and the SEASONS return with more regularity in France than in England.

France contains almost every kind of SOIL except stiff clay. The greater part, however, consists of loam of different degrees of tenacity and fertility. In many places the loam is deep and rich, but in others sandy or calcareous, and less fertile; while in some extensive tracts of heath, sand, gravel, and stony ground appear. On this subject the late Arthur Young has remarked, that "the proportion of poor land in England to the total of the kingdom is greater than a similar proportion in France; nor have they any where such tracts of blowing wretched sand as are to be met with in Norfolk and Suffolk. Thin heaths, moors, and wastes, not mountainous, which they term *Landes*, and which are frequent in Brittany, Anjou, Maine, Guyenne, and Gascony, are infinitely better than our northern moors; and the mountains of Scotland and Wales cannot be compared in point of soil to those of the Pyrenees, Auvergne, Dauphiny, Provence, and Languedoc." The same accurate author, whom the French themselves consider as one of their best authorities, has given the following statement in reference to the proportion of the different soils of that kingdom. These numbers, however, include the whole surface, and are therefore too great, as deductions should be made for roads, rivers, lakes, ponds, &c. M. Neckar estimated the roads of France alone at nine thousand square leagues.

	Acres.	Acres.
Rich district of the north-east, containing the provinces of Flanders, Artois, Picardy, Normandy, the Isle of France, &c.	18,179,590	
Plain of Garonne	7,654,564	
Plain of Alsace	637,880	
Lower Poitou, &c.	1,913,641	
Rich loam		28,385,675
The heath district of Brittany, Anjou, and parts of Normandy, &c.	15,307,128	
The heath district of Guyenne and Gascony	10,206,085	
Heath		25,513,213
The mountainous district of Auvergne, Dauphiny, Provence, Languedoc, &c.		28,707,037
The chalky district of Champagne, Sologne, Touraine, Poitou, Saintonge, Angoumois, &c.		16,584,889
The district of gravel of the Bourbonnais and Nivernais		3,827,282
The district of stony soils in Lorraine, Burgundy, Franche Compté, &c.		20,412,171
The district of various loams in the Limousin, Berry, La Manche, &c.		8,292,444
Total		131,722,711

With all its advantages of soil and climate, the AGRICULTURE of France is greatly inferior to that of England. From the deficiency of skill and capital, and the imperfect mode of tenure under which the cultivation of France is pursued, must arise that difference of produce between the two countries, which is almost every where evident. The landed property of France is divided among an immense

number of proprietors, many of whose possessions are so small, as not to admit either of the accumulation of capital or of the introduction of those improvements which a different system would naturally promote. The law which directs the division of the greater part of the property of a land owner equally among his sons, contributes to the unusual partition of the land, which has also been greatly increased by the revolution. The large properties of the church and of the emigrants were seized, and subsequently sold in small parcels; so that *one-half* of the population of France is now composed of landed proprietors. One-sixth of the inhabitants consist of agricultural labourers, and consequently *two-thirds* of the whole are employed in agricultural pursuits; while in Great Britain, those so occupied do not amount to more than *one-third* of the population. According to a recent statement of M. *Chaptal* (*De l'Industrie Française*) the surface of France contains 52,000,000 *hectares*, which are thus distributed. The English acre is to the French hectare, as 1049 to 1, or nearly two to five.

	<i>Hectares.</i>		<i>Hectares.</i>
Arable land	22,818,000	Olives	43,000
Woods regularly cut for fuel.. ..	6,612,000	Mines and Quarries	28,000
Woods allowed to grow for timber	460,000	Gardens, Parks, Pleasure Grounds	16,000
Pastures	3,525,000	Canals	9,000
Meadows	3,488,000	<i>Cultures particulières</i> , crops too	
Chesnut woods	406,000	small to be classed but as sundries	780,000
Orchards	359,000	Waste lands, heaths, sands.. ..	3,841,000
Kitchengardens	328,000	Buildings	213,000
Lakes, Ponds, &c.	213,000	Unproductive, as Towns, Roads,	
Marshes	186,000	Rocks, Rivers	6,555,000
Hops and Hemp	60,000		
Oseries	53,000		
		Total....	52,000,000

It appears from M. *Chaptal's* statement, that the whole value of the agricultural produce of France is 4,678,708,855 francs. The expenses of raising this, he estimates at 3,331,005,515 francs, which reduces the net profits to 1,334,703,370 francs. Besides this statement of the net profits, three others have been given, each arising from different principles. These are

	<i>Francs.</i>
According to the registered customs	1,323,138,877
Average value per acre.....	1,486,244,653
According to the return of special Commissioners..	1,626,000,000
The mean of these three gives.....	1,478,461,176

It, therefore, to obtain the average result of all these statements we take the mean of this last and of M. *Chaptal's*, we shall have 1,411,582,273 francs; which is doubtless a near approximation to the truth. From the estimate of the learned author just mentioned, it appears that the capital employed in agricultural pursuits in France is 37,522,061,476 francs. By comparing this with the statement of profits, it gives only $3\frac{1}{2}$ *per cent.* upon the whole capital employed.—This is certainly a very small return. One of the most singular results derived from a comparison of the state and produce of Agriculture in England and France, is the superior value of the returns arising from this branch of industry in our own country. After every possible deduction has been made from the agricultural produce of England, to bring it to the same state as that of France, the total is nearly as 10 to 19, for the whole of the countries, and nearly as five to four on equal surfaces; which therefore gives an excess of 20 *per cent.* in favour of England. It should, however, be observed, that this is not the ratio of value, but of absolute quantity, and

must be entirely ascribed to the superiority of our agriculture, which has to contend with disadvantages both of soil and climate. According to this statement, four acres of English soil, on an average, produce as much in *quantity* as five acres in France; while the superiority of our Manufactures and Commerce gives the produce of these four acres, a *value* equal to that yielded by seven acres and a half of French soil.

The imperfect state of agriculture in many of the departments, particularly those in the southern provinces, is strongly attested by the prevailing custom of treading out the corn by horses and mules. This is usually done in the field immediately after harvest, or rather it is considered as one of the necessary operations which fall under that term, for the harvest is not completed till the grain is separated from the straw.

Besides the vegetables common to England, France produces several for which its climate and temperature render it better adapted. To the usual kinds of grain, it adds maize, millet, tobacco, and several drugs. Abundance of grapes, figs, olives, and other delicate fruits are grown in many parts. Oranges and capers are also cultivated in some of the southern districts; and silk is a valuable product. Peaches and plums are very abundant; and the northern parts yield all the fruits commonly raised in England, but their apples and pears are generally inferior to the English.

France presents few peculiarities in its domestic ANIMALS. They only differ from those of England, by being of an inferior quality. The native Horses are small and ill-formed, but hardy and capable of subsisting upon coarser food. They have been improved in many places by crossing the breed with Arabian, Turkish, Spanish, and English horses. Normandy is the most noted province for breeding this useful animal. The Norman horses are generally low, sure-footed, strong, and steady. The other provinces most distinguished for their horses are Limousin, Auvergne, Brittany, Franche Compté, Poitou, and Burgundy. Those of Limousin are most esteemed for the saddle. The whole number in France is supposed to be less than two millions. In 1802, the horses employed in agriculture were stated at a million and a half, which will appear surprising when it is considered that oxen are in very general use for that purpose. This, however, is one of the natural consequences of the minute division of landed property. Mules are common in the middle and southern districts, where they are frequently employed in treading out the corn, for which oxen are seldom used.

The prevailing colour of the French cattle is a light or dun red, except in a district near the Rhone, where they resemble the black Scotch breed. The best cattle in France are those of Limousin and Normandy. The former are chiefly valued for their size, and the latter for the quantity of their milk. It has been calculated that two million of oxen are employed in agriculture; and that the whole number of cattle in the kingdom exceeds six millions. This is a small proportion when compared with those of Great Britain, which are nearly equal in number, though the comparative extent of the two countries is as three to seven. The cattle are, therefore, not more than half as numerous in France as in England in proportion to its extent. The grass lands are likewise less in the one country than in the other. Small flocks of sheep are spread over most parts of France; but they are inferior to those in England. They have generally long legs and coarse wool. The best of the native breeds are in the northern provinces, where the body is longer and the fleece much finer.

Attempts have been made to improve the wool by the introduction of Merinos from Spain: but in this the efforts of Buonaparte failed. In some of the southern districts they are migratory as in Spain; particularly from the lower part

of the basin of the Rhone to the mountains of Provence and Dauphiny, and from other districts to those of Cevennes, which stretch through the northern borders of Languedoc. The whole number of sheep in France has been estimated at more than thirty millions, and the annual produce of their wool at 106,770,000lbs. By comparing those with the numbers given at pages forty-eight and forty-nine, they will be found to be about one-third of the proportional produce of England and Wales. Goats and pigs are numerous; the former, particularly, in the mountainous district, and the latter, in the vicinity of the forests, where they are plentifully supplied with acorns and chesnuts. Immense numbers of fowls are reared in most parts of the country; to such an extent, indeed, is this carried, that it is supposed as much poultry as mutton is consumed by the nation. Bees are likewise objects of great attention in some provinces.

Among the wild animals the most remarkable are the boar and the wolf, which are frequently found in vast troops in the mountainous parts, and often commit great ravages during winter. The wild-boar is the principal object of the chase. The ibex and the chamois are found on the borders of the Alps and the Pyrenees. The bear is also sometimes met with in Dauphiny and the Pyrenees, and in the latter region the lynx is occasionally seen. The native birds present few that are peculiar. The seas, rivers, and lakes abound with fish of the common kinds; while the shores of the Mediterranean present some species not usually met with on other parts of the coast.

France is less productive of MINERAL treasures than Britain. Yet, some of its mountainous ranges afford most of the metals in common use, among which are gold, silver, iron, copper, lead, antimony, zinc, cobalt, manganese, and quicksilver. The only *gold* mine worked in modern times was in the department of Isere, but it has been abandoned as it did not defray the expense. Some of the rivers wash down particles of gold. There are mines of *silver* in Alsace, near the mountains of Vosges, and in the province of Dauphiny, but this metal is principally found in conjunction with lead, though sometimes it is met with in copper.

Most of the French *lead* is obtained in Brittany. Mines are also worked in the maritime alps, and in the mountains of Vosges. *Copper* is likewise procured in the same mountains, and on the borders of the Pyrenees. *Iron* abounds in all the northern provinces, where the ore is met with in large masses on the surface, or dug from beds only a few feet below it. There is also a noted iron mine in the heart of the Pyrenees not far from the confines of Spain. The other metals are generally found in combination with some of the preceding. *Coal* mines are worked in various places. Before the late cessions, it appears from the report of M. *Lefebvre*, that coals were actually obtained in 47 of the departments, and had been discovered in several more. These mines employed about 60,000 people.

Great attention was paid by Buonaparte to the working of mines, and much practical skill and science were applied to the subject with proportionate success. In the *Exposé* of 1814, it is stated that there were 478 mines of different kinds actually worked, which employed 17,000 men, and produced raw materials to the value of 26,800,000 francs, with a revenue to the state of 251,000 francs. These are independently of the coal mines above referred to. Various other mineral products are also met with in different parts of the country, as jet, alum, naphtha, ochre, sulphur, numerous kinds of stone, and excellent marble in the Pyrenees. Gypsum abounds in several places, particularly in Montmatre, near Paris. Salt springs have been discovered in various departments, from which great quantities of salt are annually obtained, as well as from sea water.

MINERAL WATERS rise in numerous places within the confines of France. Some of the principal are at Aix, Bagneres, and Bareges. Those at Aix, in Pro-

vence, seem to have been known to the Romans, and a bath was erected by C. Sextius Calvinus. The water has nearly the same temperature as some of the springs at Bath. Bagnères, in the eastern part of Guyenne, was also known to the Romans, and the hottest of its springs is about 123 degrees of Fahrenheit's scale, and the coldest 86. The baths are about thirty in number. Bareges is situated in a frightful chasm among the mountains, and is only a summer residence, as the inhabitants are obliged to remove to a more secure place during the winter, in consequence of the torrents and avalanches that often prove destructive at that season. The waters issue from a hill in the centre of the village, and are distributed into three baths, the hottest of which exceeds 112 degrees. They are strongly sulphureous and fetid, greasy to the touch, and turn silver black. The waters at St. Sauveur, near Luz, in the department of the Upper Pyrenees, are not so hot as those of Bareges, but they are more nauseous to the taste. Hot-springs also arise in the midst of beautiful scenery at Cauterets, in the same department, the hottest of which is 118 degrees. Other springs are found among the Pyrenees; besides which there are baths at Forges, Vichi, Bourbonne, Balaruc, and Plombières.

CHAPTER III.

Principal Cities, Towns, and Buildings.

THE number of large and thickly-inhabited towns in France, corresponds with the extent and population of the country ; but the villages are seldom more than collections of miserable looking huts, while the farm-houses present little of the neatness and comfort exhibited by those of England.

PARIS is the splendid capital of this kingdom. In reference to most of the higher classes it has been remarked, that "Paris is France," as few of them ever reside in the country. It rises on a beautiful plain on the banks of the Seine, but in a country less diversified than the environs of London. It is an ancient town, as it existed in the time of Julius Cæsar, who mentions it as being then situated on an island in the Seine. The river divides Paris into three parts ; the *ville*, or town, on the north, the city in the centre, and the university on the south. The whole, including the suburbs, is nearly circular, and is encompassed by a great wall, which was erected in 1785, and is about seventeen English miles in circuit, but this comprises several open spaces. Paris therefore does not exceed *two-thirds* of the size of London and its suburbs ; but it is more closely built, and in many parts more thickly inhabited. It is the second city in Europe with respect to its population, which, according to a late census, was 715,000 ; but it is the first, as the seat of refined luxury, cultivated society, splendour, and amusement. The spoils of war, the pillage of conquest, and the exactions of the conquerors, lately adorned it with the master-pieces of art of all ages and countries, which were exhibited to the public in the unrivalled gallery of the Louvre. But it has since twice experienced the fate of the conquered, and has been justly stripped of most of its boasted treasures.

Many of the streets at the east end of the city are narrow, and the houses old and very high, which give them a gloomy appearance. They have no paved foot-paths as in London, and other large towns of England ; and they are lighted by reflecting lamps suspended over the middle of the street. In the newer parts of the town they are more open and airy, and the west end displays all the beauties of modern architecture. The Boulevards, which occupy the space that was appropriated to the defence of the city, when its circuit did not exceed seven miles, have been converted into magnificent public walks. On the north side of the town they form a splendid street nearly two miles in length. In the middle is a spacious road, each side of which is planted with lofty trees. Between the avenues of trees, and the rows of elegant houses, are gravelled walks. The whole is from two to three hundred feet wide, which shows the massy stone structures to great advantage. The southern Boulevards are still more extensive. They are laid out in the same manner, but are not lined with houses.

Stone being abundant in the vicinity of Paris, it is generally used for building, which gives the family mansions, or hotels, as they are frequently called, an appearance superior to similar edifices in London. The principal distinction between them is, that they are generally more elevated in the former than in the latter city. A strange intermixture of great and small, of splendid palaces, and of mean buildings, is a very common defect in Paris.

The squares of Paris differ greatly in appearance from those of London. The houses are often stately buildings, constructed of hewn stone, but the spaces they enclose are comparatively insignificant. Place Vendome and the Place de Carrousel, however, are exceptions. The last is where the national guards and other troops occasionally exercise. In palaces and public structures, Paris is superior to London, but in all that relates to neatness and convenience it is far inferior. The Tuilleries, which is the present royal residence, is a noble and venerable structure; and when viewed through the avenues from the opposite end of the garden, has an air of romantic grandeur. The Louvre, which is only a short distance from the Tuilleries, and on the same side of the Seine, was principally built by Louis XIV., and is dedicated to the reception of works of taste and art. The palace of Luxemburg is an elegant building. In one of its spacious halls, the chamber of Peers hold their meetings. The Palais Bourbon, on the west side of Paris, is a splendid edifice. Among the other public buildings the Hotel des Invalids, the military school, which forms one end of the *Champ de Mars*, the palace of the Legion of honour, nearly opposite to the Tuilleries, the buildings of the Institute, and the mint, or Hotel des Monnaies, all demand the attention of the stranger. Several others might be added, as the Hotel de Ville, the *palais de justice*, some of the hospitals, and particularly the new exchange, which is now building. The most eminent of the French hospitals is the *Hotel-Dieu*, which is adapted to the accommodation of 3000 patients of all nations and religions.

Amidst all the display of public edifices that meet the eye in almost every direction, Paris has no church comparable to St. Paul's. The metropolitan church of Notre Dame is a large Gothic structure, richly ornamented within, but participating in all the exterior antiquity and gloom of that part of the city (the *cité*) where it stands. The Pantheon, or new church, situated in the southern division of the town, is an elegant edifice. The church of St. Sulpice, that stands near it, that of St. Eustache, and others, are handsome buildings, but in confined situations. The Protestants have three churches in Paris, one of which is large.

Another distinguishing feature of modern Paris is the number of its public monuments. One of the most striking of these is the column of the Place Vendome, which was erected by Buonaparte, in 1805, to commemorate his successes in Germany. It is a brazen pillar twelve feet in diameter, and 133 feet high, composed of cannon taken from the enemy during the campaign, and adorned with bas-reliefs. The figures of these are three feet high, and are disposed in small groups, which succeed each other at certain intervals in a spiral line round the pillar from the base to the entablature. The triumphal Arch, in the Place de Carrousel, which Buonaparte caused to be erected, in 1806, is forty-five feet high, but it has suffered greatly by the Prussians removing the bas-reliefs representing the victories gained over them, and by the Austrians carrying away the celebrated Venetian horses and the car of victory that crowned its summit. Some other arches of this kind, as well as the Portes or gates of St. Denis and St. Martin, deserve attention. Several bridges cross the Seine, of which Pont Neuf is the only one that attracts notice. On this a fine bronze statute of Henry IV., was erected in 1818. Paris is adorned with eighty public fountains, some of which are much admired.

Paris is as much distinguished by its literary and scientific institutions and collections, as by its splendid appearance, or its public amusements. It is no less the metropolis of France, in reference to its literature, science, and taste, than it is the seat of its government, and the centre of its power. The royal institute, composed of four distinct Academies, is one of the most celebrated institutions in Europe. The university has long been eminent. Colleges and schools for almost every branch of knowledge abound. The public libraries, which are open to all

persons without introduction, are extensive and valuable. That of the king is the largest royal library in Europe, and contains more than 430,000 volumes, about 72,000 of which are manuscripts, and 5000 volumes of engravings. The Bibliothèque magazine, the library of the pantheon, of the institute of the arsenal, and others, are all noble collections. The gallery of the Louvre still exhibits many fine specimens of sculpture and painting. The museum of natural history, the Jardin des Plantes, the museum of French monuments, and the conservatory of arts and trades, are all attractive objects. Paris abounds with places of amusement of every description; and whatever may be said of the propriety or taste with which they are exhibited, no European capital can vie with it in their varied profusion, or the incessant eagerness with which they are crowded.

Several manufactures are carried on at Paris, but they are chiefly confined to articles of taste and luxury. Clocks, watches, porcelain, cabinet work, mathematical and philosophical instruments, silks, plate-glass, and jewellery, are all extensively made. The manufacture of the gobelins, which exhibits beautiful pictures in webs of silk and worsted has long been celebrated. Cotton goods, carpets, and a great variety of ornamental articles are likewise made at Paris, which is the centre of nearly all the printing and bookselling in the kingdom. The principal trade consists in exporting the above-mentioned articles, and importing such as are necessary for its consumption.—Paris is equally the seat of splendour and misery.—He who views the exterior beholds the one, and he who examines the interior finds the other. No stronger evidence of this can be required than is supplied by the fact, that more than *one-third* of the deaths take place in the *Hospitals* and *Hospices*.

MARSEILLES is the richest and most flourishing city in the south of France, and one of the most ancient and celebrated cities in Europe. It was founded by a Greek colony from Phocis, about 600 years before the Christian era. Its Latin name was *Massilia*; and such was its ancient celebrity, that Cicero styled it the *Athens* of Gaul. Pliny called it the Mistress of Education; and it has since been denominated Europe in miniature, in reference to the various costumes that are seen, and the diversity of languages that are spoken. It is the best and most frequented port in the Mediterranean sea, and the centre of the French Levant trade, which has always been a conspicuous part of her commerce. Its harbour is formed by an inlet of the Mediterranean, which stretches nearly to the centre of the town, while the narrowness of its entrance renders it secure at all times. Marseilles is nearly a square, surrounded by walls of about four miles in circuit. A crescent of mountains rises on the north, and extends on both sides to the sea. The streets in the old town ascend one above another like an amphitheatre; but they are narrow and crowded. The New Town, which occupies the southern and eastern parts, is scarcely surpassed in beauty by any city in France. The street that separates the old from the new part, is about a mile in length, and rivals the celebrated Toledo at Naples. The central part of this street expands into a beautiful promenade, which is adorned with fountains and trees. Marseilles has also a number of handsome squares laid out in the same manner. The public and private edifices correspond. The *hotel de Ville* has its front decorated with columns of jasper, and reliefs in white marble. The ground floor is employed as an exchange. The cathedral is an ancient Gothic structure, erected on the site of the temple of Diana, the goddess of the Marseillians in Pagan times. The largest of the theatres is a handsome pile, and is built on the plan of the Odeon at Paris. Among the other public buildings are the governor's palace, the concert hall, and several hospitals. The Lazaretto is one of the most complete in Europe. Marseilles has an academy of

sciences, a royal college, and a public library containing about 90,000 volumes. From the advantages of its position, and other circumstances, it has shared largely in the commerce of the Mediterranean. It is the exclusive medium of intercourse between France and the Levant, as well as the northern coasts of Africa. To these places the exports are various, amounting annually to about a million sterling. Its imports exceed that sum. It is the great outlet for the produce and manufactures of the south of France, by means of which it maintains an extensive intercourse with England, Holland, the Baltic, America, and the West Indies. Its chief manufacture is soap, the establishments for which consume yearly from twelve to fifteen hundred tons of oil. It has also the only manufacture of coral articles in France. Silks, woollens, linens, chintz, leather, earthenware, alum, sulphur, and salt are likewise made at Marseilles. Pickling and preparing capers, olives, and other fruit, are considerable sources of industry. Marseilles suffered greatly from the Revolution, and during the reign of Buonaparte; but it is now regaining its ancient commercial activity. Its population is stated by a late French writer at 120,000.

BORDEAUX is another of the most eminent sea-ports of France, situated on the left bank of the Garonne, about sixteen leagues from the Bay of Biscay. It is a large and opulent city, the see of an archbishopric, and the chief place for the export of French wines. The interior of the town is not remarkably handsome, as many of the streets are narrow and crooked, but it contains several good buildings, and has been much improved during the last half century. Various noble structures give the city a splendid appearance from the river (see the annexed plate). Among its public edifices are the exchange, the hotel des Fermes, the palace founded by Buonaparte in 1810, an elegant theatre, the town-house, and the palace once occupied by the Dukes of Guyenne, but since used as a house of parliament. The cathedral is a very ancient structure. The university has been instituted more than 500 years. There is also an academy of arts and sciences, with another of painting, sculpture, and architecture. Bordeaux has given birth to many eminent men, among whom may be mentioned the poet Ausonius, Montaigne, and Montesquieu.

Bordeaux has manufactures of glass, earthenware, and woollens, with a few other articles; but it is most distinguished for its commercial transactions. Its connexion with the interior is very considerable by means of the Garonne and the Dordogne. The maritime commerce of this city is carried on to a great extent with most parts of the globe; and it is computed that in time of peace the annual export of wine, amounts to 100,000 pipes, with 20,000 hogsheads of brandy. Plums, raisins, chesnuts, walnuts, wood, turpentine, cork, and honey, are also included in its exports. The population of Bordeaux is about 112,880. It was the first city in France that opened its gates to the Bourbons in 1814; and it also resisted the second usurpation of Buonaparte in the following year.

LYONS was considered the second city in the kingdom prior to the Revolution, during which it suffered greatly. It is situated in the south-east of France, and is indisputably the first manufacturing town. It has long been distinguished for its fabrics of silk. Lyons was founded about 42 years before the Christian era, by the Roman General, Manutius Plancus, as an asylum for the inhabitants of Vienne, whom the Allobroges had driven from the possession of their territory. It was then called *Lugdunum*, and became the capital of Celtic Gaul, as well as the central station of the Roman legions. The ruins of Roman aqueducts and other works, still bear witness to the importance of the city in early times. When intestine commotions agitated Italy in the 12th and 13th centuries, many opulent

Boatman



families fled to Lyons, and introduced the manufacture of silk, for which it is still so much noted.

Lyons stands on a strip of land formed by the approach of the Rhone and the Saône. It is of an oblong form, about two miles and a half long and two broad, surrounded by a rampart, and entered by six gates. Much of the included space is a compact mass of buildings; but many of the streets are narrow and gloomy, except in the new parts of the town, which display considerable architectural elegance. Such are the square of *Louis le Grand* and *La Place de Bellecour*, the latter of which is situated near the southern extremity of the city, and is considered as one of the most elegant in Europe. It is planted with trees, and surrounded by noble buildings, many of which were destroyed during the revolution, but have been rebuilt with augmented splendour. The *Hotel de Ville*, and the hospital called *Hotel Dieu*, are the most noted of its public edifices. Another of its hospitals is capable of accommodating 3000 patients. The cathedral is an ancient structure, and some of the other churches are relics of great antiquity. One of them stands on the ruins of a temple of Augustus. Lyons has likewise its literary institutions, its academy of arts, and its public library, which is a valuable collection of about 120,000 volumes.

Nearly three-fourths of the silk manufacture of France is carried on at Lyons. The chief articles are gold and silver brocades, plain and striped velvets, embroidered taffeta and satin, with galloons, gauze, ribbands, and silk stockings. Several other articles of a coarser kind are also made; while printing and book-selling are much greater sources of industry at Lyons than in any other provincial town of France. The population exceeds 100,000.

BREST is situated near the western promontory of France, and is the chief port on the shore of the Atlantic. Its fine impregnable harbour has rendered it the usual station of their channel fleet. At the beginning of the seventeenth century, Brest was only an insignificant village, dependent on the town of St. Renan; but the safe anchorage in the roads, as well as the iron mines and forests in the vicinity, induced Cardinal Richelieu to have the harbour and magazines constructed for the purpose of converting it into a general rendezvous for the French navy. It was soon after fortified and received the privileges of a city. In the suburb of Recouvrance, which has since been united to the town, the streets are spacious, and the buildings handsome. The harbour is secure, though the entrance is narrow and difficult; but it possesses this peculiar advantage, that vessels can leave it with almost any wind. Brest contains a spacious naval arsenal, and every requisite for the construction and equipment of fleets on the largest scale, together with such public buildings as are suitable for the first naval port in the kingdom. Its population is about 24,000.

TOULON is the centre of the naval force in the Mediterranean, and the second port in this respect in the kingdom. Louis XIV. raised it from a village to a place of great importance, by fortifying both the town and harbour for the protection of the royal navy. Its store-houses are particularly arranged, so that one belongs to each ship. Toulon carries on a good trade, particularly in wine. The population has lately been stated by a French writer at 28,170.

LA ROCHELLE is a celebrated port in the department of Lower Charente, with a safe harbour, but difficult of access. Most of the streets are straight, and the houses are chiefly supported on piazzas. It was taken from the Huguenots by Louis XIII., and a large mole constructed across the mouth of the harbour, under the direction of Cardinal Richelieu, to prevent the English from sending assistance to the Protestant party. It carries on a good trade with the French colonies in

Africa, and the United States of America, in wine, brandy, sugar, salt, linen, paper, and woollen stuffs. The population is about 18,500.

ROCHEFORT is one of the principal ports for the French navy, with a deep, commodious, and well-sheltered harbour. It was founded by Louis XIV. as a naval port and arsenal, and is well built, at the mouth of the Charente, but stands in an unhealthy situation. It is supplied with all that is requisite for fitting out ships of war, and has a population of about 15,000. It was here that Napoleon embarked on board an English vessel, the *Bellerophon*, after the disastrous field of Waterloo.

L'ORIENT is also another naval port, on a bay of the Atlantic, in the department of Morbihan. The town is well built and fortified. The public squares are spacious and handsome. The harbour is large and easy of access, with sufficient water to float ships of war. It was formerly the principal station for the shipping belonging to the French East India Company, and has now magazines for the supply of the royal navy. Its chief manufacture is salt, and its population is about 20,000.

CHERBURG is an important sea-port, near Cape La Hogue, in Lower Normandy. It has long been considered as one of the principal stations of the French channel fleet, and immense sums have been spent in the construction of a safe harbour. A vast breakwater was erected to check the force of the waves and form a secure roadstead; but this proved ineffectual. Buonaparte then determined to excavate a harbour out of the solid ground, capable of containing 50 or 60 sail of the line; and this was accomplished to the extent of about 18 acres, in 1813. The depth of this basin is 50 feet. His next project was a wet-dock of equal dimensions, which was begun in that year, and has since been completed. Both together have cost nearly five millions sterling. The population of Cherburg is stated in a recent French work at 13,500.

HAVRE DE GRACE is a commercial and fortified town, at the influx of the Seine into the English channel. It is surrounded with lofty walls and ditches, and defended by one of the most regular citadels in France. Being the sea-port of Paris, all the foreign trade which the support of that capital requires, is carried on through its medium. As it is the only eligible port between Cherburg and the northern extremity of the coast, it is always in a state of commercial activity, and its intercourse with all parts of the globe is very general. Its manufactures are also various. The number of its inhabitants is estimated at 21,000.

ROUEN, which was formerly the capital of the duchy of Normandy, is a city of great importance. It is finely situated on the right bank of the Seine, over which there is a bridge of boats, that rises and falls with the tide, and opens to let vessels pass. The tide rises sufficiently to bring up vessels of 200 tons to the quays of Rouen. The architecture of the town itself presents nothing striking; but the cathedral and the abbey church of St. Ouen are magnificent structures. The former was built by William the Conqueror, and is a noble edifice in the fine Gothic style, richly ornamented in the interior. In one of its towers is the celebrated bell, which weighs 40,000lbs. Rouen is a flourishing place, with numerous manufactures and extensive commerce. It has frequently been termed the Manchester of France, and maintains a population of about 80,000. It has an Academy of Arts, Sciences, and Belles Lettres; and has been the birth-place of many eminent men, among whom were the two Corneilles and Fontenelle. It was at Rouen that the Maid of Orleans was executed for witchcraft: and a monument is erected to her memory on the spot where the cruel sentence took place.

LISLE, or l'Isle, (the island) so called from its having been formerly surrounded by marshes, is a handsome commercial town. It was the capital of French

neatness pervades the whole. Its churches, squares, hospitals, and other public buildings, give it a superior appearance to most towns in that district. The manufactures of Lisle are camlets, serges, and various woollen stuffs; with cotton, linen, silks, thread, velvet, lace, carpets, soap, leather, glass, and earthenware. It is also a place of great commercial transactions, and had a population, in 1817, of about 61,500 individuals.—VALENCIENNES is also a strong place in the same department, with about 20,000 inhabitants.

NANCY is a handsome city in the north-west of France, and the capital of the department of the Meurthe. It stands on the left bank of the river of that name, and is considered as one of the most pleasant cities in France. The gates resemble triumphal arches, more than the common entrances of a city. The streets are spacious, and the houses good. The great square, built by Stanislaus I., who made Nancy his residence after he was driven from the throne of Poland, is one of the finest in France; and each corner is adorned with a beautiful fountain. Among the public buildings, the cathedral and the town-hall are the principal. The unfortunate Stanislaus and his queen were buried in the church of Notre Dame. Nancy is the seat of some literary institutions. Its manufactures are linen and woollen cloth; but its chief articles of merchandize are corn and wine. The present population is about 30,000.

STRASBURG, situated a few miles from Nancy, is a fine populous city, near the eastern confines of France. It stands a short distance from the banks of the Rhine. Some of its streets are spacious, and its buildings handsome. Strasburg is a place of great strength, and is entered by six gates, with six bridges over the river Ill, on which the town is built. Many of the public buildings are handsome, and the cathedral is noted for the beauty of its spire, which is 574 French feet in height. The clock in this cathedral is esteemed a curious and complicated piece of mechanism. It not only shows the hours of the day, and the days of the week, but the motions of the constellations, and the revolutions of the sun and moon. Strasburg is the richest bishopric in France, and a place of considerable trade, with a population of about 50,000 inhabitants.

METZ is likewise a fortified town, situated on the Moselle, near the northern borders of France, and is one of its most important frontier towns. It stands partly on an eminence and partly on a plain. The whole circumference of the town and its fortifications, is between three and four miles. As it was once the seat of a Parliament, an Intendant, and other great officers, most of its public buildings are noble edifices. Its cathedral is celebrated for its antiquity, having existed as early as the 9th century. Metz has establishments for education and literature, and a public library. Its manufactures include cotton, linen, gauze, fustian, chintz, woollens, and a few other articles. The leather trade, also, employs great numbers, and the neighbourhood supplies corn, wine, and brandy for exportation. Its population is about 41,000.

RHEIMS is a large, ancient, and celebrated city, standing on the banks of the Marne. The remains of an amphitheatre, a castle, a triumphal arch, and three city gates, still bearing the names of the Pagan Deities of the Romans, attest its antiquity and former grandeur. Before the revolution, Rheims was the see of an archbishop, who was the first duke and peer of France, and always crowned the king. The principal church was erected before the year 406, and is a curious Gothic structure. The great square is magnificent; but the other parts of the town are not distinguished for the beauty of their architecture. Rheims has several manufactures, and a population of 32,000 inhabitants.

AMIENS was the *Samaro-Briva* of the ancients, and formerly the capital of Picardy, but is now the chief place in the department of the Somme. It is seated on the bank of a navigable river, about 14 leagues from the sea. Its situation is pleasant; the streets are broad, and many of the houses well built. It has several spacious squares, some handsome public buildings, and a fine cathedral, with a population of about 40,000 individuals. Amiens is chiefly supported by its manufactures of serge and woollen stuffs, with those of ribbands, lace, and soap, which are sent to various towns in France, as well as other parts of the continent. It was in this town that the negotiations for peace between England and France were opened in October, 1801, and the definitive treaty was signed on the 25th of March, 1802. Amiens is said to have been taken by stratagem in 1597. A party of Spanish soldiers, dressed as peasants, were dispatched to the town by the governor of Dowlens with a cart load of walnuts. When the cart had entered, the walnuts were suffered to fall about the streets, and while the soldiers of the garrison were eagerly engaged in gathering them up, the disguised Spaniards entered, overpowered the guard, and got possession of the place.

ORLEANS is an ancient and celebrated city near the centre of France. It is situated at the bottom of a declivity on the right bank of the Loire, in a pleasant and undulating country, agreeably diversified with woods, meadows, and cultivated fields, intermixed with vineyards, and covered with a luxuriant vegetation. Orleans is a very ancient town, having been besieged by Attila, in the year 450. In the middle ages it was frequently the residence of the French kings. The walls that encompass the town, except on that side next the river, are about three miles in circuit; and much of the included space is filled with narrow and crowded streets. A handsome bridge of superior architecture crosses the river, and is equally admired for the boldness, solidity, and lightness, of its structure. The cathedral is one of the finest Gothic buildings in France; but the other churches, though numerous, contain nothing remarkable. Orleans is well situated for trade. It is near the centre of the kingdom, and communicates by the Loire and its tributary streams with the sea, and several of the fertile departments of the interior, thus forming an inland depôt for the foreign commodities imported at Nantes and some of the adjacent ports. Its exports consist principally of native products, as corn, wine, brandy, and fruit. It has manufactures of woollens, hats, stockings, and leather, with a population of about 42,000.

NANTES is a large commercial city, on the right bank of the Loire, a few miles above its entrance into the Atlantic. The situation is more beautiful and convenient than most of the other towns in France. Nantes occupies the ascent and summit of an eminence, and descends to the brink of the spacious river, by which it receives the products of the interior, and by the sea, those of the most distant parts of the globe. The river is here formed into six branches by a number of islands, which are crossed by several handsome bridges. These branches unite immediately below the town, and form one broad and smooth expanse. The greater part of the town is meanly built, and it is only in the modern portion of it that the houses have any claim to elegance. The public buildings have less correspondence with the prosperity and opulence of the place than is usual. The cathedral, however, deserves the attention of the traveller, while the town-hall and the residence of the prefect are magnificent edifices. Nantes is extensively engaged in foreign trade and manufactures; but only small vessels can come up to the town. The others unload at Paimbœuf, about 20 miles below. The principal manufactures are cotton, linen, and woollen cloth, with hardware, earthenware, and glass. Ship-building is a prominent branch of its industry, and many vessels are engaged in the Newfoundland fishery. It communicates by means of the Loire with the large

inland towns of Angers, Tours, Blois, and Orleans. Nantes is distinguished as the place where the celebrated edict in favour of the protestants was issued in 1598, and the revocation of which impressed so deep a stain on the memorable reign of Louis XIV. It shared largely in the calamities of the revolution. The civil war of La Vendee reached its very gates, and rendered it the scene of many sanguinary cruelties. Its population is about 77,000.

TOULOUSE has long been celebrated in the annals of France. It is situated in the south, and is now the chief place in the department of Upper Garonne. It was of much greater consequence under the old government than at present, as its parliament, (of which there were then several in France) was esteemed next in rank to that of Paris. Toulouse is the largest city in France, except Paris and Lyons; but its population, which is only about 50,000, bears only a small proportion to its extent. It was originally the capital of the *Tectosages*, who were famed for their conquests in Greece and Asia. It next became a Roman colony, and was adorned with many of those specimens of art, which always characterized the dominion of that renowned people. The ruins of its celebrated amphitheatre, its capital, and other monuments, still remain. At successive eras, it was the capital of the Visigoths and the Aquitaines. Most of the houses are built of brick, and many of the streets are spacious. The great canal of Languedoc terminates in the Garonne near this city, which is favourable to its trade; but less attention has been paid to commercial pursuits in Toulouse than in most other large towns. It is more distinguished for the taste displayed by its inhabitants for literature, arts, and sciences, and there are several institutions for the promotion of liberal knowledge. Toulouse has also given birth to many illustrious men. It is an archbishopric, and its metropolitan church of St. Etienne is scarcely surpassed in magnificence by any in France. Its Hotel de Ville is a modern edifice, in the form of a square, each side of which is 54 toises.

MONTPELLIER is another large ancient city, situated a few miles from the Mediterranean, and much resorted to for the salubrity of its climate. The interior is crowded, but its public buildings, coffee-houses, and baths, enliven and beautify it greatly. Its squares in general are small; but the *Place du Peyron*, on the outside of the city, is esteemed the finest public walk in Europe. The most interesting of its public structures is the Roman Aqueduct, composed of three tiers of arches, which conveys water to the city, from a mountain distant three leagues. Montpellier is connected with the Mediterranean by the Canal de Grave, and the harbour of *Cette* forms its port. The number of inhabitants is about 33,000.

VERSAILLES deserves to be mentioned as a modern city, and a favourite royal residence. Louis XIV. built a splendid palace there, and laid out a noble garden and park. Architects, painters, and sculptors have adorned the edifice with many fine specimens of the arts. The chapel is magnificent, and the great gallery superb. The garden is ornamented with numerous statues, canals, and fountains; but profusion is often more conspicuous than taste. The town has rapidly risen, by the almost constant presence of royalty, from an obscure village to a handsome city, and contains several spacious squares and streets, with five public walks in its avenues and boulevards. It has a royal college, with a manufacture of fire arms, and about 26,000 inhabitants.

CHAPTER IV.

Manufactures, Fisheries, Commerce, and Shipping.

THE proportion already stated in reference to the labouring classes of France shows that it cannot be considered as a manufacturing country in the same sense as England. Yet the MANUFACTURES of France had obtained a certain degree of maturity and perfection, in all that constitutes their real utility, while those of England scarcely existed. Stuffs were early made at Arras, and the manufacture of woollen cloth was extensive at the beginning of the 14th century. Henry IV., made great efforts to increase the industry and improve the manufactures of France, which were still further promoted by his grandson Louis XIV. The support of government, thus operating upon a productive country, a favourable climate, and an open market, raised France, at the close of the 17th, and the beginning of the 18th centuries, to one of the most flourishing manufacturing states in Europe. But since that period the rivalry of the English, and the late revolution, with several other causes, have rendered it less prominent.

In the various branches of their manufactures, the French undoubtedly manifest much ingenuity, and have attained great perfection. They have a striking coincidence with the leading traits in their national character. Their ingenuity is principally directed to articles of show, rather than utility—of such as contribute to the gratification of the rich, rather than administer to the comfort and convenience of society in general.

The French have always been noted for their woollens, and their fine-cloths are deservedly celebrated. They are made in various parts. Louviers, in Normandy, and Abbeville, in Picardy, have long been famed, while the scarlet and black of Julienne and Sedan, are much esteemed. Cloths of every quality are made from the borders of the Netherlands to the shores of the Mediterranean. The total amount of the most productive year, which was 1789, was estimated at 140,000,000 francs.

SILK is the next important branch. It is very extensively diffused over the southern provinces of the kingdom, where the climate and other circumstances are most favourable to the production of the raw material. This was the great cause of the prosperity of Lyons. In 1787, that city alone employed 15,000 looms, and about 60,000 people; and the following year, the total produce of the silk manufactured in all parts of the kingdom was estimated at 125,000,000 livres.

LINEN is another staple product of France, and is characteristic of the northern provinces, where the best flax is grown. Before the revolution, France exported linens to the amount of about twelve millions of livres, with lawns and cambrics to nearly half that sum. The French excel in their *Laces*, and those of the finest quality are made in the northern provinces. The *Cotton* manufacture is of more recent introduction, and has to contend with the overpowering competition of Britain. Rouen is the principal seat of this trade, and the place where it has attained the greatest excellence; but it is likewise carried on in several other towns. *Paper*, *glass*, and *china*, were long distinguishing articles. Sevres is the chief place for china, and St. Gobin for plate-glass, in which the French rivalled the Venetians. Paris is celebrated for its jewellery and all kinds of delicate and expensive *toys*; while the tapestry of the *Gobelins* is among the most elegant productions of the loom.

The following summary gives a compendious view of the present state of French manufacturing industry. The statements are made in francs.

Present state of the Manufacturing Industry in France.

Manufactures.		Value.	Manufactures.		Value.
Silks		107,560,000	Copperas		3,000,000
Woollens		238,133,932	Saltpetre		3,000,000
Flax		100,000,000	Nitric Acid		6,000,000
Hemp		142,796,012	Muriatic Acid		240,000
Paper		31,700,000	Other Salts and Acids.. .. .		6,000,000
Cotton		191,600,000	Soap		33,000,000
Gold, Silver, and Worsted Lace.. .. .		7,000,000	Sugar		60,823,910
Iron		207,390,377	Hats		24,375,000
Copper		16,171,260	Prepared Skins		155,392,600
Lead		4,830,460	Dyeing		44,117,950
Other Metals		4,000,000	Varnishing		5,000,000
Watch-making and mending		22,500,000	Perfumery		13,060,000
Gold and Silversmith and Jewellery		38,000,000	Starch		6,000,000
Gilding Bronzes		38,000,000	Books, Printing		21,652,726
Glass		20,500,000	Cabinet-ware and Musical In-		
Earthenware of all kinds		26,000,000	struments		40,000,000
Bricks and Tiles		17,500,000	Beer		47,635,377
Lime and Plaster.. .. .		15,000,000	Cider and Perry		48,622,135
Common Salt		6,600,000	Spirits		55,000,000
Alum		6,000,000			

The total value of these products amounts annually to 1,820,102,409 francs ; of which about 416,000,000 may be reckoned as the value of home-grown raw materials ; 186,000,000 of workmanship ; 192,000,000 of tools, buildings, coals, candles, &c. ; leaving 182,005,221 as profit to the manufacturer, or about 10 *per cent.*

The same causes that almost destroyed the commerce of France nearly cut off her FISHERIES, which are now carried on chiefly for herrings, mackerel, sardine, anchovy, tunny, and other species, near its own coasts. One peculiar branch of the French fishery is that for *coral*, in the Mediterranean, for which a company has long been established at Marseilles.

Little can be said respecting the present state of French Commerce. The events that rose out of the revolution were nearly fatal to its existence; and though the return of peace and the restoration of many of her colonies will doubtless revive it, much time will be necessary for it to regain its former state. M. Chaptal has given the amount of French Imports and Exports for an average of three years ending with 1789, which was immediately before the revolution. The numbers are in francs.

With	Imports.	Exports.	With	Imports.	Exports.
Spain	43,711,800	85,084,133	Holland	28,287,467	40,796,533
Portugal	9,180,353	3,751,933	Sweden	7,051,067	3,943,600
Switzerland	6,796,467	21,124,033	Denmark	3,978,533	6,451,867
Russia	6,854,633	6,523,467	Austria	32,858,200	Not stated
Piedmont	24,571,967	18,981,433	England	62,295,800	33,486,333
Genoa	9,525,833	5,853,967	American states..	10,244,833	1,543,633
Two Sicilies	18,717,000	Not stated	Smyrna	6,190,302	14,535,072
Minor states of } Germany.. }	8,518,033	23,681,000	Hans Towns	12,789,167	62,310,967
Prussia	4,037,167	10,428,267	Levant in general	37,317,048	18,214,734

The French SHIPPING has, of course, participated in the decline of its commerce.

CHAPTER V.

*Government and Constitution—Laws and Jurisprudence—Army—Navy—Revenue
Political Importance and Relations.*

THE GOVERNMENT of France, since the restoration in 1814, is a limited monarchy. Its constitution was formed on that of England, but it differs from it in some essential points. The king is considered as infallible, and his ministers are responsible for the public measures pursued by government. Females are excluded from the throne. Besides the cabinet and council of state, there are two houses of Parliament; one, of peers, chosen by the king, and holding their situations for life, and the other of deputies, elected by the people, resembling our House of Commons. The French cabinet is composed of the keeper of the seals, and the ministers of foreign affairs, of finance, of war, of the navy, of colonies, of the home department, and of the head of the royal household. Each of these ministers is independent in his own department. The King has also his *Privy Council*, and a *Council of State*, which is the most efficient body, and is well organized for the dispatch of business. It is divided into separate committees, each of which is attached to the minister to whose department its labours are dedicated, and from whom it receives the subjects for its deliberations. The prerogatives of the king are nearly the same in France as in England, with the addition of proposing all laws in the two chambers of legislature. The *Chamber of Peers* is composed of about 200 members who are appointed by the king, but their number is not limited. When once nominated they are legislators for life. Their duties correspond with those of the English Peers, and like them they are the body to try the ministers of state, if impeached by the other house. The discussions of the peers are not made public, in the same way as those of the deputies, which are regularly reported, as in England. But after the lapse of a few days, the principal speeches, upon any subject of great national interest, find their way into the *Moniteur*.

The *Chamber of Deputies*, as fixed by the charter granted by the king on his restoration, was composed of 258 Members, *one-fifth* of whom are renewed annually. The qualifications for members of this assembly were 40 years of age, and the payment of 1000 francs in direct taxes. They have since been increased by 172 deputies (two for each of the 86 departments.) These are to be chosen by one-fourth of the electors who pay the greatest sums in taxes. The total number of members, in the house of Deputies, since the beginning of 1819, is, therefore, 430. A public document makes the whole number of electors about 93,900; and of those who are qualified to become candidates for representatives little more than 8000.

The present division of France is favourable to a minute administration of justice; but it causes the courts and judges to be greatly multiplied. This administration has been entirely remodelled since the commencement of the revolution, and the cumbrous mass of the ancient laws reduced into a portable and intelligible form. The laws of France are now presented in a few volumes, respectively appropriated to civil and criminal cases. To administer these laws, the following organization is established.—About 3700 magistrates are appointed by government,

during pleasure, with small salaries. They try civil causes to a limited amount within their several districts ; and act as moderators in cases to which their power does not extend. A reference to them is a necessary preliminary to further proceedings.—Next to these are the primary courts (*Tribunaux de première instance*), which amount nearly to 360, the jurisdiction of each extending over a certain district. The judges and assistant judges who preside in these are about 3300.—The next step in the judicial scale is the *Cours d'Appel*, or *Cours Royale*, of which there are twenty-seven for the whole kingdom, with about a thousand officiating judges. To these an appeal lies from the tribunals of the first instance. They hold their sittings in the chief town of their respective districts. Superior to all these is the *Cour de Cassation*, instituted at Paris, and composed of forty-nine, judges, who hear appeals relative to forms of proceedings, and on any defect being discovered, a new trial is granted before another court. The jurisdiction of this court extends to both civil and criminal cases ; that of the others to *civil* only. There are also about 215 *Tribunaux de Commerce*, with five judges each, in the most commercial towns in the kingdom ; the judges have no salaries.

For carrying into effect the criminal law, there is also a series of courts established. They refer 1. to Contraventions, 2. to Misdemeanours, 3. to Crimes. The justices try cases of Contravention, and can inflict five days' confinement, and a fine of 15 francs. An appeal lies from their decision to the *Tribunaux Correctionnels*, which are composed of the judges of the tribunals of the first instance. They try misdemeanours without a jury, and can condemn to five years' imprisonment, and a fine of 12,000 francs. From these an appeal lies to the *Cours d'Appel*. The judges of these last courts also compose the *Cours d'Assises*, which consist of five judges each, and try crimes with a jury, and can inflict capital punishment ; for which a majority of two-thirds of the jury is sufficient. In addition to these there are the *Conseils de Guerre*, whose sittings are permanent in each of the military divisions. They are composed of about 200 judges, all military men, who try causes without a jury ; and not only such as relate to military men alone, but offences committed by a military man against any individual. An appeal lies from the decisions of these courts to the *Conseil de Revision*, which is also composed of officers. This enormous judicial establishment, comprises nearly 5600 judges, which is a judge for about every five thousand persons ; while in England, including the twelve judges, the two chancellors, and the ten masters in chancery, there is one judge for about every *four hundred thousand* persons.

The law relative to the disposal of property allows a parent, who has only one child, to dispose of the half of his property to any person. Should he have two children, he can dispose only of one-third. If any greater number, he is only allowed to part with one-fourth ; and each child must have an equal portion of the remainder. This law is a prolific source of litigation, and of family dissensions.

Recent events have caused an immense reduction in the French Army. According to the public documents of 1819, it now consists of 140,000 men. Its Navy has been nearly annihilated within a few years ; but great exertions have since been made to restore it to its former importance. A French statement at the beginning of 1819, makes it amount to 48 ships of the line, 29 frigates, and about 20 smaller vessels.

Such an armament with a heavy national debt, and the current expenses of the state necessarily require a large REVENUE. This amounts to about 855,000,000 of francs, or £35,625,000. The general total of the budget provisoire for 1819, makes the public income 891,435,000 francs, or £37,143,125. The national debt was stated a few months ago at £144,416,666. For an enumeration of the particular sources of the public income and expenditure, for 1818, see CHAPTER VIII.

In sketching the **POLITICAL IMPORTANCE AND RELATIONS** of the other states, we have already assigned the place which France occupies among the great powers of Europe. Her situation, extent, population, soil, and climate, all combine to give her a commanding aspect in the political compact which now binds the various European states into one great federative body. For all the purposes of intercourse, the position of France is most favourable. A long range of coast on the Atlantic, intersected by the estuaries of three noble rivers, opens an easy access, from the interior, to the most distant parts of the globe; while her ports on the Mediterranean give her a peculiar facility of communication with the north of Africa and the Levant. This, in conjunction with her extent, enables her to produce all the necessaries and most of the luxuries of life in great abundance; and thus renders her more independent of foreign connexions than any of the other European states. Much of her soil is rich; and her climate, being every where genial, she is capable of rewarding the efforts of enlightened industry by copious returns.

With an army on the peace establishment of 140,000 men, and capable of being increased to three times that number; and with a navy superior to any other in Europe, except that of Great Britain, she must always continue an object of great attention to the other powers. France is merely separated from England by a narrow channel—a comparative rivulet—But be it remembered that all the power and ingenuity of Buonaparte could never transport his supposed *Invincibles* to this side of the channel, notwithstanding he avowed his intention of dining at St. James's on a fixed day. France and England have long been considered as opposed to each other in interests as well as in situation; and this feeling can scarcely be less powerful in the breasts of our neighbours at the present than at any former period. But a mutual alliance, founded upon their reciprocal wants, would obviously be the best guarantee to both.

CHAPTER VI.

Religion and Ecclesiastical Geography—Education—Language and Literature—Arts and Sciences—Manners and Customs.

ALL modes of Christian worship, as well as Judaism, are nominally tolerated in France ; but the Catholic is the established religion of the country, and professed by the greatest body of the population. The Lutherans and Calvinists amount to about two millions, and the Jews to nearly 60,000. The late persecutions, however, which the protestants experienced in the south of France, and the insults to which they are constantly exposed from a bigotted populace, are strong proofs that the toleration, as far as depends upon the people, is merely nominal. Before the revolution, the landed property belonging to the church was extensive, and the incomes of the superior clergy, and of the monasteries, were very great ; but in 1790 the government seized the church property, and assigned a fixed salary to the clergy, which is still continued. The number of clergy was also extremely numerous prior to that period, but they were then greatly diminished, and thousands of them emigrated. Under the old regime there were eighteen archbishops, and one hundred and twelve bishops ; but the former were then reduced to nine, and the latter to forty-one.

France has long possessed ample means of EDUCATION for the higher classes ; but in this, as well as in other national provisions, the interests of these classes alone were consulted. Before the revolution there were twenty-three universities, whose functions were suspended for a time by that grand convulsion ; but the means of education were subsequently established in a different and more comprehensive form. The first step in the gradation are *primary* schools, which are similar to our parish schools. In these, part of the expense is defrayed by the pupils. Then there are *Secondary* schools, in which also, a part of the expense is paid by the public. The *Lycées*, which are now called Royal colleges, are large provincial schools, where the pupils are taught classics, mathematics, and rhetoric. They are in immediate dependance upon government. There are likewise twenty-six universities ; for though the term *University* is now confined to the establishment at Paris only, while those in the provincial towns are denominated *Academies*, yet they are constituted like the universities of other countries. These Royal colleges are situated at

Aix.	Cahors.	Metz.	Pau.
Amiens.	Clermont.	Montpellier.	Poitiers.
Angers.	Dijon.	Nancy.	Rennes.
Besançon.	Douay.	Nismes.	Rouen.
Bordeaux.	Grenoble.	Orleans.	Strasburg.
Bourges.	Limoges.	Paris.	Toulouse.
Caen.	Lyons.		

The whole of the above are Catholic Institutions ; but the protestants have two colleges for the study of divinity, one at Strasburg, and the other at Montauban.

A Royal Ordonnance, dated 4th of September, 1816, recognized the *Polytechnical* school, the object of which is to diffuse instruction in the mathematical, physical,

and chemical sciences, together with the graphic arts; and to prepare pupils for the royal military schools. Candidates for admission into this school, must be between the ages of sixteen and twenty; and the term allowed them to complete their studies, is from two to three years. The *Ecole Normale* is an establishment, maintained at Paris, for the preparation of masters for the secondary schools, and assistants in the *Lycées*.

According to a return of the public schools throughout France in 1815, and the pupils they contained, they were,

<i>Schools.</i>		<i>Pupils.</i>
Universities	26	6,329
Lycées, or Royal Colleges	36	9,000
Secondary schools	368	28,000
Divinity schools of the second class (one in each Diocese)	41	5,233
Primary schools	22,300	737,379
Total . . .	22,771	785,941

In addition to these institutions, the systems of Bell and Lancaster, having been adopted by a society of benevolent individuals, and encouraged by government, are now diffusing the advantages of useful knowledge among the poorest classes of the population.

The French LANGUAGE is known and spoken in all parts of Europe. It is chiefly derived from the Latin, but is intermixed with many words and idioms of Celtic and Gothic origin. It possesses great variety, clearness, and precision, and is well suited to express all the various degrees of pleasure, and all the multifarious wants of life. But it is rather soft than powerful, and is generally considered as deficient in expressions of grandeur and sublimity. From the time of Louis XIV., it has been peculiarly adapted to the lighter species of writing, the inspiration of which consists of imagination and wit.

French LITERATURE has long been in a progressively flourishing state; and the encouragement it has obtained, has given rise to a variety of excellent books on almost every subject. Their works on polite literature, philosophy, astronomy, and the exact sciences, are universally read and admired; but in those of bold inquiry and inventive genius, they are surpassed by the English and Italians; while in those that demand laborious research and patient investigation they are inferior to the Germans. On these points a late traveller observes, "The present state of French literature is confessedly low. They say the talent of the nation has been turned into other channels, and there is a good deal of truth in the assertion. Like ourselves they are totally without dramatic writers of the first class; though their small pieces have much effect and point. In oratory they are at once poor and vicious.—In science, France has several distinguished names, but she does not seem to be replacing those she is losing with any thing like their equals. In one science of the highest importance to mankind, she is very decidedly behind England—namely, in that of medicine. In all those efforts of mind that denote deep internal feeling, chaste and sound principle, and enlarged and honest observation, the French are at present behind not only the English but also the Germans. The whole of their system of society and instruction is opposed to what is natural, touching, and pure; and their remarkable disposition to look for models only to themselves and their own possessions, stands directly in the way of improvement. England has at present five or six excellent poets—France has not one—It might be said she never had."—*Scott's Visit to Paris*.

The poets, painters, and sculptors of France, particularly the latter two, manifest a degree of sensuality on all occasions, which can only be accounted for by the loose and depraved state of the national manners. They uniformly make an unnecessary display of the figure, which is highly offensive to those endowed with a true perception of delicacy. Nearly all the productions of the pencil and the chisel that have been executed by modern French artists, exhibit this prostitution of talent, so disgraceful to those liberal professions.

The MANNERS AND CUSTOMS of France have long displayed such a contrast with those of England, and presented such an inviting field for the exercise of prejudice and the powers of description, that the subject has become familiar to every English reader. This familiarity has also been wonderfully increased by recent events. Excluded for years from a country within sight of our shores, curiosity was stimulated by restraint, and when the channel was suddenly reopened, France was literally crowded with British travellers. Each found so much that was either different from, or opposed to, what he had been accustomed to, that the press teemed with the multifarious descriptions which poured from the opposite shores.—To explain what is singular, reconcile what is paradoxical, describe what is excellent, and mark what is vicious, in the manners, customs, and character of our rivals, and to investigate the basis upon which the fabric of their society is supported, would be an ample and interesting theme ; but merely to repeat what is trivial, or present what is familiar, would neither augment the information nor promote the entertainment of the reader. The former we cannot attempt, the latter we will not pursue. A brief summary must, therefore, suffice.

One of the first impressions made on the mind of an Englishman, when visiting France, is that of *negligence*. Every thing appears to be in disorder. The state of the buildings, the variety of dresses, the appearance of the people, the want of cleanliness, all impress him with this idea. This feeling equally possesses him whether he roams through the country, or perambulates the crowded city. In England he is accustomed to see the useful every where blended with the ornamental ; but almost every step of his progress in France reminds him that the people have little perception of the beauties of nature. “One may travel for days through rich and cultivated districts and not see any thing like a disposition to beautify them ; or to embellish the fields which so luxuriantly repay the slightest labour of cultivation.”

The unusual activity of the women, with the air of dexterity, content, and publicity which pervades all the affairs of ordinary life, are immediately perceived. While domestic cares chiefly occupy the fair sex in Britain, the females of France take an active part in all the concerns of life. At court they are politicians—in the city, they are merchants and tradesmen—in the country, they are farmers and labourers ; for there is hardly any operation of rural economy in which they do not take a share. The contrast between the restraint upon females before marriage, and the total absence of it after, forcibly strikes an Englishman. In the one case the strictest *surveillance* is maintained—in the other the utmost license is allowed—a natural consequence of the want of moral feeling. No other people are so much influenced by society as the French. By it alone their sentiments are formed, and their manners regulated. It is the life of their pleasures, and the centre of their gratifications. They work, sit, and talk in the streets ; and have but little reserve in any of their transactions. So fascinating is this charm to the soul of a Frenchman, that he seems to lose all idea of self respect before its allurements ; and when subject to its influence, the decorated Chevalier may be seen contending with the unwashed blacksmith.

“The essence of the French character is an exuberance of animal spirits,

producing excess of mobility, and a perpetual restless activity. They are quick, ingenious, fertile in expedient, buoyant against difficulty or adversity ; but mutable, trifling, confident, vain, credulous, and incapable of moderation. With much that renders them amiable in society, as readiness to oblige, delicate attentions, kind sympathy, and lively sensibility, they are often of insecure commerce, from laxity of principle, unmeaning professions, jealous irritability, and a strong propensity to intrigue." Most of their passions and feelings verge to excess. Under the influence of their impetuous ardour, there is scarcely any thing great or heroic that they are not capable of performing ; and the late revolution has fully manifested, that there is nothing execrable—nothing which sinks the character below that of the savage, which they are not capable of committing. The following summary has been drawn up by a late visitant and a close observer.

"They are a clever people, they are an active people, they are a gay people ; but they are not deep or sound thinkers ; they do not feel virtuously, or permanently ; they have no native relish for the charms of nature, the shallow sophistications and theatrical forms of artificial systems are their favorites ;—they can see nothing but simple facts,—they cannot detect causes, consequences, and connexion,—and (what is worst of all) their actions are not indexes to their hearts. Hence they must be, and are, smart conversers, amiable talkers, dexterous workers, —persons who pull down pyramids to see what they contain,—who make drawings of ruins, exhibitions of statues, and speeches at Institutes :—but hence they can not be, and are not, either inspired poets, sound moralists, or correct politicians. Look at all the great modern discoveries of concealed truths, that have done honour to human knowledge, and advantage to human condition, scarcely one of them has been made by France—but France has robbed the discoverers of their honours, and France has raised many splendid but false theories, and Frenchmen have been very able and industrious compilers, collectors, linguists, and travellers. On the other hand, by far the majority of the atrocities, disappointments, and sufferings, which have befallen the world during the last hundred years, have had their source in France ; there is scarcely an imaginable extreme of opposite follies and crimes into which she has not plunged herself within that period ;—there is not an example of imprudence which she has not afforded, not a possible boast of vanity which she has not offensively made, and from which she has not been disgracefully driven. It would be unworthy of a rational man to feel incensed against a nation, —but it would be dastardly and unfaithful towards all the most important interests of our nature, to fall silently in with pretensions that are untrue, unfair, and mischievous. There is no shape in which the claim of being the greatest people in the world can be made, in which it has not been made, by the French.—It is repeated day after day, under every possible change of circumstances ; now as conquerors, now as vanquished, now as republicans, now as imperialists, now as royalists. Whatever freak they cut, whatever tumble they take,—whether they stand on their heads or their heels,—or lie or sit,—they poke their faces in those of their neighbours, with a supercilious grin of satisfaction, and an intolerable assumption of superiority."—*Scott's Visit to Paris.*

CHAPTER VII.

Antiquities and Curiosities of Nature and Art—Islands—Colonies and Settlements.

FRANCE contains numerous MONUMENTS of ANTIQUITY. Some of them are referred to a Celtic origin; others were the work of the Belgic Gauls, and a still greater number was constructed by the Romans. Those generally ascribed to the Celts are chiefly of the Druidic kind; but one of the most distinguished monuments of this sort is near Carnac on the coast of Brittany. It is represented as being of a more stupendous description than Stonehenge, and as consisting of nearly 4000 stones, some of them being eighteen or twenty feet high.—Nismes is one of the chief sites of the architectural antiquities of the Roman era. It is more interesting to the antiquarian than any other European city except Rome. Some of the most celebrated of these monuments are the Temple of Diana, the house built by Adrian, called *la Maison quarrée*, the amphitheatre, and the noble aqueduct, called the Pont du Gard, at a short distance from the city, with the remains of fountains, baths, statues, and other relics. The building which is usually called the *Temple of Diana*, is by some supposed to have been a Pantheon. The *Maison quarrée* stands in the middle of the town, and is a fine ancient edifice, seventy-six feet in length, thirty-eight in breadth, and sixty-four in height. Its front is adorned with six columns, and the sides with ten each. The height of these columns is twenty-seven feet. This edifice forms one of the most striking monuments of Roman grandeur and taste. Its original design is uncertain; but it was built in the reign of Augustus, and is in fine preservation. The *Amphitheatre* is a structure nearly equal in magnitude to the Coliseum at Rome, but in higher preservation. Its grand circle is entire, and the columns, porticos, and many other ornaments, are not much defaced. This amphitheatre, which was built in the reign of Antoninus Pius, is one of the most perfect specimens exhibited in any country. It is of an oval figure, about 1080 feet in circuit, and sufficiently capacious to accommodate twenty thousand persons. The stones of which it is constructed are very large, and the whole exhibits a noble specimen of architectural elegance and strength. The traveller's attention is also attracted by a large tower, standing on an eminence on the north side of the city. It is about two hundred feet high, and was formerly surrounded by a circle of open columns. The celebrated Pont du Gard may be considered as another of the most perfect specimens of Roman art that any country presents. It is situated about three leagues from Nismes, and was erected in the Augustan age, to convey a stream of water to that city, when it was a Roman colony. It consists of three tiers of arches supporting each other. The first tier contains six, the second eleven, and the upper one thirty-six. It is in such high preservation that it looks like a bridge of a few years' standing. The length between the mountains which it unites is 723 feet, and its height to the top of the aqueduct is 174 feet three inches. The order of architecture is the Tuscan; and it is so simply elegant, that its symmetry never fails to excite astonishment.

France has fewer NATURAL CURIOSITIES than many other countries of less extent. Its wide-spread plains are unfavourable to their occurrence, and the

French taste is also equally unfavourable to particularize those that do occur. A few, however, deserve attention. The triangular plain of *La Crau*, situated on the east of the Rhone, between Salon and Arles, is one of the most singular in Europe. It occupies about twenty square leagues, and is entirely composed of shingle and gravel. Some of the stones are as large as a man's head: and the whole is generally as destitute of vegetation as the shingle on the sea shore. No document exists from which the formation of this plain can be determined; but that it does not owe its origin to any modern catastrophe is evident from its having been known to the ancients as the *Campus Lapidius*, and *Campus Hercules*, and referred by them to the fabulous ages. Several *Caves* also open in some of the calcareous districts of France. One of the most singular of these is near the village of Beaume, in Franche Comté, and is remarkable for containing a glacier. It is situated at the bottom of a small valley, in the midst of a thick forest, and faces the north. Its mouth, which is on a level with the bottom of the valley, is about forty-five feet wide, and after a long descent, the passage leads to a spacious hall, nearly 100 feet high, and from which a second passage conducts to the chamber that contains the glacier. The immediate descent to this is by a ladder of forty feet long. This cavern presents numerous stalactites of ice, which are nearly joined by pillars of the same materials rising from a magnificent pedestal. Reaumur's thermometer, which in the open air stood at more than twenty degrees, fell to less than two, when carried into the cave.—The caves at Roquefort are remarkable for a current of cold air which always rushes through them, and which proceeds from the fragments of a calcareous mountain. Its temperature is seldom more than 5°, and frequently much less. It decreases as that of the external air increases, for then the strength of the current is augmented. M. *Chaptal*, on entering one of these caves in August, when the thermometer stood at 23° in the shade, found it sink to 4°, and was informed it had been seen as low as two degrees in the same situation. These caves are used for making a peculiar kind of cheese, which is much esteemed in various parts of France.

The fountain of Vaucluse, on which Petrarch has conferred such celebrity, is at the termination of the valley of the same name. A perpendicular rock rises about 600 feet, in which there is a cavern, whence the fountain issues. The entrance to this cave is impeded by a large rock, from the base of which the fountain usually flows in a multiplicity of small streams; but when the water in the cave is augmented by the melting of the snow, it rises above the rock, and flows over in a beautiful cascade. The fountain of La Foux, in the diocese of Aix, is similar to that of Vaucluse. The department of Ardeche likewise contains several curiosities, among which are the natural bridge over the Ardeche, the grotto of Vallon, the gulf of Goule, and various basaltic formations.

France contains few ISLANDS in comparison with the extent of its coast; and most of those are unimportant. Commencing a brief survey at the northern extremity of the shore, and passing the islands of *Jersey* and *Guernsey*, already described as English possessions, the isle of Ouessant presents itself off the coast of Finisterre. It forms a portion of that department, and contains about fifteen square miles, and 1650 inhabitants, many of whom are employed in the fishery; fish being their staple commodity, which it exports to various parts of the adjacent coasts. It has one castle, a village, and several hamlets.

GROAIS AND BELLE-ISLE are included in the department of Morbihan. The former is very small. The latter is about 15 miles long and five broad, with a population of 5600 inhabitants. It is about 15 miles from the shore, encompassed with rocks, and defended by a good citadel. It can only be entered at a few places,

and those are fortified. It is a fertile island with a salubrious climate. The capital is *Palais*. There are also three other small towns, and three ports. Its commerce consists chiefly of corn, salt, and fish, the latter being principally pilchards, which are caught near the coast.

NOIRMOUTIER AND ISLE-DIEU belong to La Vendée. The former is a fruitful island, and the inhabitants chiefly employed in agriculture. The latter produces but little. The men are principally mariners; and the women till the soil, which is light and sandy.

The Isle of RE, and that of OLERON, belong to the department of Charante. The former contains about 60 square miles of surface, and a population of nearly 17,000 people. It is separated from the coast by a narrow channel, and defended by four forts. Its chief products are wine and brandy, but it has few trees, and grows neither corn nor hay. Salt is made in large quantities, and this, with wine and brandy, are the principal exports. St. Martin is the principal town. The length of OLERON is about 20 miles, its breadth about six, and its superficial contents nearly 100 square miles. It is fertile in corn and wine, and much salt is made on the coast by evaporating the sea-water. The population of Oleron is about 19,000, most of whom are employed as sailors or fishermen. The chief places in the island are the small towns St. Pierre and Oleron. The light-house of Chassiron stands at its northern extremity. The island of AIX, on the north-west of Rochfort, is a small fertile isle, with about 15,000 inhabitants.

On entering the Mediterranean, the *Îlètes* are met with, off the south coast of Var. A city of the same name, on the opposite shore, gives the appellation to this group, which is composed of the isles of *Portquerolles*, *Porteros*, and the isle of *Lévant*. They enjoy almost perpetual spring; producing olives, oranges, citrons, and various medicinal plants. One of these is supposed to have been Ogygia, Homer's island of Calypso. No other islands occur eastward, till we reach CORSICA, which is the largest of the French islands in Europe, and situated in the 42d degree of latitude, between the coasts of Genoa and the island of Sardinia. It is about 110 miles in length, and nearly 50 at its greatest breadth, with a surface of 4300 square miles, and a population of about 175,000 individuals. Corsica has been successively possessed by the Carthaginians, the Romans, the Goths, the Saracens, the Franks, the Pope, the Pisans, the Genoese, the English, and the French, to whom it was transferred in 1796. It is chiefly a region of mountains; the two highest summits of which, are Monte Rotondo and Monte d'Oro; the former rising 9900 feet, and the latter 8720 above the level of the sea. The air is often foggy, and the climate of the lower parts unhealthy; but the heats of summer are tempered by the breezes from the sea and the mountains, which also render the cold of winter sometimes severe. The soil is strong and little cultivated; but it produces some corn, with wine, oranges, lemons, figs, and various other fruits. The chief wealth of the island, however, consists in oil, chesnuts, timber, and minerals; among which are silver, copper, lead, and iron. The forests are very extensive, and much silk is produced, which is sent raw to Genoa and Lyons.—Amidst so many natural advantages the Corsicans are poor and indolent, raising scarcely sufficient grain for their wants, having no manufactures, and possessing little trade. They are zealous professors of the Catholic religion, and superstitiously attached to its exterior ceremonies. Literature has made but little progress among the Corsicans, and the elegant arts are scarcely known; education, however, has been improved since the island has formed an integral part of the territories belonging to the French government. The chief town is *Ajaccio*, standing on a gulf of the same name, on the west side of the island, and defended by a strong citadel. The gulf forms a secure and commodious harbour below the town,

but a projecting rock renders it difficult of entrance. Ajaccio is the seat of the departmental government, and has been much improved since it was in possession of the French. It now contains nearly 10,000 inhabitants, and the number has lately been augmented by the encouragement given to settlers by the government. Ajaccio was the ancient *Ursinum*, and has also been rendered celebrated as the birth-place of Napoleon Buonaparte.—*Bastia* was the former capital of the island, and the ancient *Martinorum Oppidum*. It is situated on the acclivity of a hill overlooking the sea on the north-east side of the island, and carries on some trade in skins, wine, oil, and fruit, which are produced in abundance in the neighbourhood. The stilettos made here are most esteemed by the Italians. The population is now about 8000. There are also five or six other towns, with from two to five thousand inhabitants each.

Besides the possessions of the French in Europe, they have COLONIES or SETTLEMENTS in each of the other parts of the globe, though these have been greatly diminished since the revolution. By the general treaty of peace, concluded with the allies on the 30th of May, 1814, all the colonies possessed by the French on the 1st of January, 1792, were restored, except the Isle of France, Tobago, St. Lucia, and the Spanish part of St. Domingo. On the continent of South America, France possesses part of Guiana, with the islands of Guadaloupe and Martinique in the West Indies. In Asia, several forts or factories belong to them; while in Africa, they have the beautiful isle of Bourbon, with several forts or factories on the continent; also settlements on the river Senegal, with Fort St. Louis, and some other in the more southern parts of the western coast.

CHAPTER VIII.

Statistical and Synoptical Tables.

TABLE I.

Principal EXPORTS and IMPORTS of FRANCE, in 1818, according to Official Documents.

SPECIES OF EXPORTS.						Quantity.	Value in Francs.
Wine ..	{	To the French Colonies ..	..	..	..	8,475,210 litres.	2,263,000
		To Foreign Countries ..	..	..	..	88,716,803	
Brandy..	{	To the Colonies ..	..	..	..	208,886	
		To Foreign Countries ..	..	..	..	9,732,400	
Silk ..	..	..	..	..	..	1,210,519 kilog.	
Thread and silk Lace ..	..	..	..	..	..	—	1,746,318
Woollen cloth and yarn ..	..	..	..	..	..	1,217,280	
Linen ditto ..	..	..	..	..	..	2,119,785	
Cotton yarn ..	..	..	..	..	..	—	4,291,033
Furniture ..	..	..	..	..	..	—
Salt ..	..	..	..	..	..	106,999,550	
Cast and Wrought Iron ..	..	..	..	..	..	2,393,901	
Rice ..	..	..	..	..	..	919,719	
SPECIES OF IMPORTS.							
Sugar, coarse ..	{	From the Colonies ..	..	..	..	24,150,932 kilog.	
		From Foreign Countries ..	..	..	..	4,712,755	
Sugar, clayed ..	{	From the Colonies ..	..	..	..	5,795,199	
		From Foreign Countries ..	..	..	..	1,360,251	
Coffee	{	From the Colonies ..	..	..	..	6,296,720	
		From Foreign States ..	..	..	..	—
Tea ..	..	..	..	..	..	83,625	
Cocoa ..	..	..	..	..	..	727,520	
Pepper and pimento ..	..	..	..	..	..	1,301,628	
Sulphur ..	..	..	..	..	..	5,650,000	
Skins and hides ..	..	..	..	..	..	3,658,000	
Wool ..	..	..	..	..	..	9,854,231	
Linen and Woollen yarn ..	..	..	..	..	..	2,742,000	
Dye-woods ..	..	..	..	..	..	4,816,932	
Indigo..	..	..	..	..	..	622,002	
Cottons and Linens	{	From the Colonies ..	..	..	..	974,155	
		From Foreign States ..	..	..	..	16,000,000	
Rice ..	..	..	..	..	..	12,752,754	
Grain ..	..	..	..	..	..	3,402,816	
Olive oil ..	..	..	..	..	..	21,088,611 litre.	
Iron	{	In pigs ..	..	..	..	3,358,709 kilog.	
		In bars ..	..	..	..	10,064,642	
		In plates ..	..	..	..	136,998	
Instruments of iron, scythes, and other implements of husbandry ..	..	..	..	..	..	863,229	

General Result.

Total Value of the Exports ..	..	..	620,770,000 Francs.
Imports ..	..	..	609,550,000

Excess of the Exports.. .. 11,220,000

Note.—The year 1819 presents very nearly the same results.

TABLE II.

An OFFICIAL STATEMENT of the Public EXPENDITURE of FRANCE, for the year 1818.

OFFICES AND SERVICES				Previous Estimates.	Definitive Amount.
				Francs.	Francs.
National debt, five per cent. consolidated				136,737,000	136,737,000
Interest on the securities of liquidation				15,000,000	15,000,000
Endowment of the sinking fund				40,000,000	40,000,000
Annuities				12,800,000	12,800,000
Pensions	{	to the civil authorities	2,450,000	2,450,000	
		to the clergy	12,500,000	12,500,000	
		to the military	48,500,000	48,500,000	
		to the funds of reserve	265,057	265,057	
Civil list and Royal Family				34,000,000	34,000,000
Chamber of Peers.				2,000,000	2,000,000
Chamber of Deputies				680,000	680,000
Justice ..	{	For the administration of Justice.. .. .	17,300,000	17,687,020	
		Supplement to the funds of reserve	400,000	400,000	
Foreign Affairs				9,700,000	9,690,660
Interior ..	{	Clergy's salaries	22,000,000	22,000,000	
		General services	37,240,000	37,240,000	
		Supplement to the fund of reserve	541,443	541,443	
		Fixed and variable departmental expenses	36,176,800	36,176,800	
Finances.	{	Premiums for the importation of foreign corn	4,505,000	4,505,000	
		Deficiency in the direct contributions	7,917,971	7,917,971	
		Expenses for collecting direct contributions	17,200,000	17,200,000	
		Registering, stamps and forests	16,671,000	16,5-2,000	
		Post-Office	9,840,000	9,840,000	
		Lotteries	4,300,000	5,082,600	
		Custom houses and Salts.. .. .	22,943,000	23,051,210	
		Liquors and Tobacco	46,000,000	46,276,900	
		Expenses for manufacturing gunpowder.. .. .	1,337,057	1,337,057	
		Usual service	11,975,000	11,975,000	
		Register of lands.. .. .	3,000,000	3,000,000	
		Interests of securities	8,000,000	8,000,000	
		Supplement to the funds of reserve	433,067	433,067	
		Expenses attending negotiations.. .. .	21,8-8,000	21,796,570	
War	{	Usual service	154,750,000	151,302,180	
		Supplying funds for pensions	250,000	250,000	
Marine				44,800,000	44,800,000
Police General..	{	General service	1,000,000	1,000,000	
		Supplying funds for pensions	65,933	65,933	
		Private service	5,160,000	5,160,000	
EXTRAORDINARY EXPENSES.					
Reimbursements of royal securities				10,333,950	10,333,950
Interest to be paid till the reimbursement takes place				1,134,472	1,134,472
Contribution for the war (the third fifth)				140,000,000	140,000,000
Army of Occupation				142,500,000	141,940,530
Recall of the pay of foreign troops				26,666,667	26,666,667
Payment to England (in execution of the convention of the 1st of September, 1817)				2,200,000	2,200,000
Reimbursements of Securities given to titularies not replaced				12,000,000	12,000,000
Contribution for the war (Completion of the two last fifths).. .. .				265,000,000	265,000,000
				1,410,184,417	1,407,502,087
Expenses of the administration of Finances for 1815-16-17.. .. .					8,186,675
Total.....				1,410,184,417	1,415,688,762

Note.—Francs are reduced to Pounds by dividing by 24.

TABLE III.

*An OFFICIAL STATEMENT of the ORDINARY and EXTRAORDINARY REVENUES of
FRANCE, for the year 1818.*

DENOMINATION.	Estimate Law of the 15th May, 1818.	Actual Receipts in 1818.
	Francs.	Francs.
Duties arising from registering stamp paper and National domains	157,171,000	169,729,618
the felling of woods	18,500,000	20,130,820
the Post Office	21,840,000	21,829,635
the Lotteries	12,300,000	15,413,730
the direct Contributions	361,097,975	362,992,831
the Custom House and salt duties	103,243,008	111,199,415
Liquors and tobacco	166,000,600	173,945,595
Indirect Contributions { The compounding of cities for barracks	1,000,000	441,622
{ Sale of gunpowder	1,937,057	2,140,582
Duties on the journals and gaming houses	5,900,000	6,444,349
Various receipts (including 2,438,828 francs for Pondicherry)	3,500,000	7,183,736
Recovery on the sale of woods (Law of 23d of Sept. 1811)	500,000	536,629
on the commons (Law of 20th of March 1813)	2,100,000	1,872,487
on the discount of purchasers of National domains	600,000	944,510
Given up by the king and princes	2,200,000	2,200,000
Reserve on the appointments	11,200,000	10,839,664
pensions	1,200,000	144,892
Receipts from the 1st of January to the 1st of September, 1818, for the use of the year 1817, and the preceding		2,173,495
Funds to be disposed of on the credit opened to the Ministers for the use of the years preceding 1818	Francs for the use of the year 1814 .. 269,944 1815 .. 140,885 1816 .. 1,749,615 1817 .. 1,252,018	3,412,462
EXTRAORDINARY RECEIPTS.		
Use of the credit of 16,600,000 francs on the yearly revenue granted by the laws of 6th and 15th of May, 1818,	230,830,718	197,909,400
Produce of 14,925,500 negotiated for a sum of 197,909,400		32,921,318
Income to be disposed of 1,674,500 fr. drawn from the budget of 1818, and representing a sum of 32,921,318		
Produce of 18,929,377 francs of rents founded on the credit of 24 millions, opened by the law of the 6th of May 1818, for the full discharge of the two last fifths of the war contribution	265,000,000	265,000,000
Total	1,368,619,777	1,383,110,288
Deduction appropriated and carried to the budget of 1817 (Law of 27th of June 1819)		3,275,877
Remainder for the use of 1818		1,379,834,411
Complement to be taken from the receipts of 1819		35,854,351
Total, equal to the expenses		1,415,688,762

TABLE IV.

LATITUDES and LONGITUDES of the principal places in France.

The Latitudes are all *North*, and the Longitudes both *East* and *West*.

Names of Places.	Latitudes.			Longitudes.			Names of Places.	Latitudes.			Longitudes.		
	°	'	"	°	'	"		°	'	"	°	'	"
Abbeville	50	7	1	1	55	OE	Hartleu	49	30	23	0	12	14E
Agen	41	12	0	0	42	0—	Havre-de-Grace	49	29	0	0	6	0—
Aix	43	31	48	5	26	7—	Laon	49	33	54	3	17	27—
Ajaccio	41	46	0	8	53	0—	Laval	48	4	0	0	46	0W
Albi	43	55	44	2	13	0—	Limoges	45	49	0		15	OE
Alençon	48	26	0	0	10	0—	Lisle	50	37	50	3	4	31—
Amiens	49	53	43	2	18	12—	Lo, St.	49	7	0	1	1	0W
Angers	47	28	9	0	28	0W	Lons-le-Saulnier	46	41	0	5	35	OE
Angoulême	45	39	3	0	14	OE	Luneville	48	36	0	6	34	0—
Arles	43	40	0	5	43	0—	Lyons	45	45	48	4	49	24—
Arras	50	17	37	2	50	25—	Macon	46	18	27	4	50	8—
Auch	43	38	0	0	39	0—	Malces, St.	48	39	3	2	1	11W
Aurillac	41	55	10	2	31	0—	Mans, Le	48	0	50	0	11	35E
Auxerre	47	47	54	3	39	0—	Marseilles	43	17	49	5	22	15—
Avignon	43	57	8	2	48	30—	Meln	48	30	0	2	35	0—
Bayeux	49	16	34	0	41	56W	Mende	44	51	0	3	35	0—
Bayonne	43	29	21	1	24	0—	Metz	47	7	10	6	10	30—
Beauvais	49	26	2	2	19	OE	Montauban	44	0	55	1	20	45—
Besançon	47	13	45	6	2	45—	Montbrison	45	32	0	4	12	0—
Beziers	43	20	0	3	17	0—	Montpellier	43	36	16	3	52	40—
Blois	47	34	0	1	20	0—	Moulins	46	34	4	3	20	5—
Bordeaux	44	50	15	0	33	59W	Nancy	48	41	55	6	10	30—
Boulogne	50	43	37	1	56	59E	Nantes	47	13	6	1	22	44W
Bourg	46	12	30	5	13	45—	Nevers	46	59	17	3	9	31E
Bourges	47	5	4	2	23	55—	Niort	46	19	0	0	23	0W
Brest	48	23	14	4	28	45W	Nismes	43	50	8	4	21	15E
Brieux	48	31	2	2	43	55—	Orleans	47	54	12	1	54	41—
Caen	51	39	0	3	21	0—	PARIS (Royal Observatory)	48	50	14	2	20	15—
Cahors	44	25	59	1	27	17E	Pau	43	7	0	0	23	0W
Calais	50	57	31	1	51	0—	Perigueux	45	11	8	0	43	34E
Carcassonne	43	12	45	2	25	0—	Perpignan	42	42	3	2	54	9—
Chalons-sur-Marne	48	57	16	4	22	0—	Pontiers	46	35	0	0	20	43—
Chalons-sur-Saône	46	46	53	4	51	8—	Puy, Le	45	10	0	3	56	0—
Chartres	48	26	54	1	19	20—	Quimper	47	58	0	4	2	0W
Chateauroux	46	48	45	1	50	0—	Rennes	48	6	50	1	40	47—
Chaumont	48	6	13	5	14	0—	Rheims	49	15	0	4	8	OE
Cherbourg	49	38	31	1	37	3W	Rhodéz	44	21	0	2	39	0—
Clermont	45	46	44	3	5	17E	Rochelle, La	46	9	21	1	9	40W
Colmar	48	44	0	7	22	26—	Rouen	49	26	27	1	5	59E
Cressy	50	16	0	1	58	0—	Saints	45	44	42	0	38	2W
Denis, St.	48	56	0	2	21	0—	Strasbourg	48	34	56	7	44	51E
Dieppe	49	55	34	1	4	44—	Tarbes	43	14	0	0	3	0—
Digne	44	5	14	6	14	37—	Toulon	43	7	24	5	56	0—
Dijon	47	19	25	5	2	5—	Toulouse	43	35	46	1	26	36—
Draguignan	43	32	18	6	28	38—	Tours	47	28	34	0	47	0—
Dunkirk	51	2	9	2	22	37—	Troyes	48	18	5	4	44	9—
Epervay	49	3	0	3	58	0—	Ushant	48	30	0	4	58	0W
Epinal	48	12	0	6	34	0—	Valence	41	56	0	4	52	OE
Evreux	49	1	0	1	14	0—	Vannes	47	39	0	2	46	0—
Fontainebleau	48	24	4	2	41	8—	Versailles	48	48	21	2	33	8—
Gap	44	33	52	6	5	9—	Vesoul	47	37	0	6	19	0—
Granville	48	0	16	1	35	57W							
Grenoble	55	11	42	5	43	49E							

MONIES, WEIGHTS, MEASURES, AND EXCHANGES.

MONIES.

Monies of Account.

Accounts in France were formerly kept in Livres, each of which was divided into 20 Sous, and these into 12 Deniers tournois. This has been rendered still more simple by the new system, in which the *Franc* is the unit, and the decimal division is adopted. Thus,

	d.
10 Centimes	are 1 Decime, equal to 1
10 Decimes	— 1 Franc — 10

80 Francs are nearly equal to 101½ Livres of Tournois. The words Franc and Centime only are used in calculation; as 7 Fr. 6 Dec. 5 Cents are written 7 Fr. 65 C.

Coins.

Gold.		£	s.	d.
Louis d'or	equal to 20 Francs, equal to 0	16	8	
Double ditto	— 40 ditto —	1	13	4
Silver.				
Franc	equal to 100 Centimes equal to	0	10	
Piece of	— 2 Francs —	1	8	
Ditto	— 5 ditto —	4	9	
Half Franc	— 50 Centimes —	0	5	
Quarter ditto	— 25 ditto —	0	2½	

There are also copper coins of one Centime, and of five Centimes, with a base coin in pieces of 10 Centimes.

USUAL WEIGHTS.

The unit of weight, according to the new system, is the *gramme*. It is the weight of a Cubic Centimetre of distilled water at the temperature of melting ice, and is equal to 15.432 English grains. The decimal system is also used in the weights and measures, as well as the monies; but by article 86 of the *arrêté* of the 28th March, 1812, the use of the pound was allowed in the *retail* of articles, which is equal to half the Kilogramme, and which is divided into 16 ounces, the ounce into 8 Gros, and the Gros into 72 Grains. The following weight and division is used in all other cases.

		Avoir. lbs.
10 Milligrammes	are 1 Centigramme, equal to	0.0002205
10 Centigrammes	— 1 Decigramme —	0.002205
10 Decigrammes	— 1 Gramme —	0.02205
10 Grammes	— 1 Decagramme —	0.2205
10 Decagrammes	— 1 Hectogramme —	2.205
10 Hectogrammes	— 1 Kilogramme —	22.05
10 Kilogrammes	— 1 Myriagramme —	220.5
10 Myriagrammes	— 1 Quintal —	2205

COMMON MEASURES.

Long Measure.

The unit of long measure is the METRE, or the ten millionth part of a quadrant of the terrestrial meridian. By the measurement of a large arc, the French made the distance between the north pole and the equator equal to 5,130,740 toises; from which they fixed the length of the Metre at 113,296 lines, of the *pie de roi*. Thus, however, is not the ten millionth part of 5,130,740 toises, which is exactly 443,299.36 toises. In common calculations this difference is of little moment, but in the length of the quadrant of the terrestrial meridian it is an error of about 4½ feet.

Adopting the legal value of the Metre, and the proportions of this measure and their values in English denominations will be,

	Eng. Inches.
10 Millimetres	are 1 Centimetre, equal to 39.370226
10 Centimetres	— 1 Decimetre — 39.370226
10 Decimetres	— 1 METRE — 39.370226
10 Metres	— 1 Decametre (nearly) 32.80832 ft.
10 Decametres	— 1 Hectometre — 328.0832
10 Hectometres	— 1 Kilometre — 1093.6176 yds.
10 Kilometres	— 1 Myriametre — 10936.1766

The Myriametre is therefore equal to 6 English miles 376.1766 yards; and the League to 2768 miles very nearly.

Cubic Measure.

The STERE is the unit, and is the Cube of the Metre. It is principally used for wood and stone, particularly for fire-wood.

	Eng. Cub. Feet.
10 Centisteres	are 1 Decistère, equal to 35.315058
10 Decisteres	— 1 STERE — 353.15058
10 Steres	— 1 Decastère — 3531.5058

Superficial Measure.

The unit is the ARE, which is equal to the square of the Decametre. Thus

	Eng. sq. yds.
10 Centiare	are 1 Deciare, equal to 119.59988718
10 Deciares	— 1 ARE — 1195.9988718
10 Ares	— 1 Decare — 11959.988718
10 Decares	— 1 Hectare — 119599.88718
10 Hectares	— 1 Kilare — 1195998.8718
10 Kilares	— 1 Myriare — 11959988.718

The French Hectare is therefore equal to 247.107 English Acres.

Measure of Capacity.

In this measure, by which both corn and liquids are measured, the unit is the LITRE, or the Cube of the Decimetre. The proportions and values are,

	Cubic Inches.
10 Millilitres	are 1 Centilitre, equal to 6.102142
10 Centilitres	— 1 Decilitre — 61.02142
10 Decilitres	— 1 LITRE — 610.2142
10 Litres	— 1 Decalitre — 26.4175 W. gall.
10 Decalitres	— 1 Hectolitre — 264.175
10 Hectolitres	— 1 Kiloitre — 2641.75
10 Kiloitres	— 1 Myrialitre — 26417.5

EXCHANGES.

Paris and the various trading towns of France, now (Jan. 1821) exchange with, and give,

Amsterdam	3 Francs	for 56 Grotes Flemish
Antwerp	100 Francs	100 ditto
Augsburg	250 Cents	1 Florin
Berlin	3 Francs	1 Pound banco
Florence	5 ditto	1 Pezza of 8 reals
Frankfort	300 Francs	78 Rixdollars
Ditto		From par to premium

Genoa	474 Cents	1 Pezza f. b.
Hamburg	186 Francs	100 Marks banco
Leghorn	510 Cents	1 Pezza of 8 reals
Lisbon	3 Francs	560 Reis
London	25 Francs	£1 Sterling
Madrid & Cadiz	15 ditto	1 Pistole of Exch.
Naples	420 Cents	1 Ducat
Petersburg	108 ditto	1 Rouble
Venice	100 ditto	1 Franc
Vienna	254 ditto	1 Florin current.

EXTRACTS FROM THE DEFINITIVE TREATY

BETWEEN

FRANCE AND THE ALLIED POWERS,

Relative to the Boundaries of that Kingdom, Signed at Paris the 20th of November, 1815.

ARTICLE I.—“ The Frontiers of France shall be the same as they were in the year one thousand seven hundred and ninety, save and except the modifications on one side and on the other, which are detailed in the present Article. FIRST, on the Northern Frontiers, the line of demarcation shall remain as it was fixed by the treaty of Paris, as far as opposite to Quiverain, from thence it shall follow the ancient limits of the Belgian Provinces, of the late Bishopric of Liege, and of the Duchy of Bouillon, as they existed in the year one thousand seven hundred and ninety, leaving the territories included (*enclavés*) within that line of Philippeville and Mariembourg, with the fortresses so called, together with the whole of the Duchy of Bouillon without the Frontiers of France. From Villers near Orval upon the confines of the Department of Des Ardennes, and of the Grand Duchy of Luxembourg as far as Perle, upon the great road leading from Thionville to Treves, the line shall remain as it was laid down by the Treaty of Paris. From Perle it shall pass by Lauensdorf, Walwich, Schardorff, Niederweiler, Pelweiler (all these places with their banlieus or dependencies remaining to France) to Houvre; and shall follow from thence the old limits of the district (*Pays*) of Sarrebruck, leaving Sarrelouis and the course of the Sarre, together with the places situated to the right of the line above described, and their banlieus or dependencies without the limits of France. From the limits of the district of Sarrebruck, the line of demarcation shall be the same which at present separates from Germany the departments of the Moselle and of the Lower Rhine, as far as to the Lauter, which river shall from thence serve as the Frontier until it falls into the Rhine. All the territory on the left bank of the Lauter, including the fortress of Landau, shall form part of Germany.

“ The town of Weissenbourg, however, through which that river runs, shall remain entirely to France, with a rayon on the left bank, not exceeding a thousand toises, and which shall be more particularly determined by the Commissioners who shall be charged with the approaching designation of the boundaries. SECONDLY, leaving the mouth of the Lauter, and continuing along the departments of the Lower Rhine, the Upper Rhine, the Doubs, and the Jura, to the Canton de Vand, the Frontiers shall remain as fixed by the Treaty of Paris. The *Thalweg* of the Rhine shall form the boundary between France and the states of Germany, but the property of the islands shall remain in perpetuity, as it shall be fixed by a new survey of the course of that river, and continue unchanged, whatever variation that course may undergo in the lapse of time. Commissioners shall be named on both sides by the High Contracting Parties, within the space of three months, to proceed upon the said survey. One half of the bridge between Strasbourg and Kehl, shall belong to France, and the other half to the Grand Duchy of Baden. THIRDLY, in order to establish a direct communication between the Canton of Geneva and Switzerland, that part of the Pays de Gex, bounded on the east by the lake Leman; on the south, by the territory of the Canton of Geneva; on the north, by that of the Canton de Vand; on the west, by the course of the Versoix, and by a line which comprehends the communes of Collex, Bossy, and Meyrin, leaving the commune of Ferney to France, shall be ceded to the Helvetic Confederacy, in order to be united to the Canton of Geneva. The line of the French custom-houses shall be placed to the west of the Jura, so that the whole of the Pays de Gex, shall be without that line. FOURTHLY, from the frontiers of the Canton of Geneva, as far as the Mediterranean, the line of demarcation shall be that which, in the year 1790, separated France from Savoy, and from the county of Nice. The relations which the Treaty of Paris of 1814 had re-established between France and the Principality of Monaco, shall cease for ever, and the same relations shall exist between that Principality and His Majesty the King of Sardinia. FIFTHLY, all the Territories and Districts included (*enclavés*) within the boundary of the French Territory, as determined by the present Article, shall remain united to France. SIXTHLY, the High Contracting Parties shall name within three months after the signature of the present Treaty, Commissioners to regulate every thing relating to the designation of the Boundaries of the respective countries, and as soon as the labours of the Commissioners shall have terminated, Maps shall be drawn, and land-marks shall be erected, which shall point out the respective limits.”

KINGDOM OF SPAIN.

CHAPTER I.

Name—Situation—Boundaries—Extent—Population—Original Inhabitants—Progressive Geography—Present Division of the Inhabitants.

THIS kingdom, at various periods of its history, has been known by different NAMES. The *Tarshish* of the Phœnicians; the *Iberia* and *Hesperia* of the Greeks; and the *Hispania* of the Romans; have all been indicative of the same region. Spain was the Mexico of the Phœnicians, whence they obtained gold and silver; but as the southern part of the peninsula only was known to them, their *Tarshish* must have been confined to that portion. The Greeks early established a colony at Marseilles, and thus became acquainted with the district west of that port, and as the river *Iberus*, the present Ebro, opened a communication to the interior, its name was applied to the country, in the ancient *Iberia*. The same people also gave it the name of *HESPERIA*, from its western situation, in reference to Greece. These nations confined themselves solely to trading with the inhabitants, but when the peninsula was compelled to submit to the conquerors of the world, and the treasures of Spain adorned the trophies of Rome, the supposed native term of *HIS- PANIA* was substituted for those of exotic origin; and from this term, the *SPAIN* of the English, and the other appellations bestowed by modern nations, have evidently sprung.

This favoured country occupies the greatest part of the south-western peninsula of Europe, which is distinctly marked by nature for one of its separate portions, although the whole of it has seldom been possessed by a single nation. It extends from the 26th to nearly the 41th degree of north latitude; and from 9° 17' west, to 3° 15' east longitude, from the first meridian of England. Spain is bounded on the north by the Bay of Biscay and the Pyrenees, which constitute a grand natural barrier between it and the French empire; on the east it is limited by the Mediterranean; on the south by the same sea, the straits of Gibraltar, and the bay of Cadiz; and on the west by Portugal and the Atlantic ocean. In the northern part, where it occupies the whole breadth of the peninsula, it extends through a space of more than 640 miles, between Cape Finisterre and Cape Creux. Its breadth towards the south is much less; and in the parallel of 38° it does not exceed 340 English miles. Its greatest extent from north to south, is from Cape de Penas, in the Bay of Biscay, to the Straits of Gibraltar, which is about 520 miles.

By a statement published at Madrid in the Literary Memorial of 1802, the population was 10,409,879, which agrees nearly with that of *Antillon*, given in his *Elementos de la Geografia, Astronomica natural y politica, de España y Portugal*.

published at Madrid, in 1808. He states the area of Spain, including Majorca, Minorca, and Iviça, at 15,005 geographical leagues, or 179,640 English square miles; and the population at 10,351,075 persons. From the recent events which have so strongly marked the history of that country, the number of its inhabitants cannot be supposed to have increased since that period. This population, therefore, gives nearly 690 individuals to a square league, or 58 to each mile.

The ORIGINAL INHABITANTS of Spain are supposed to have been the *Iberians* from Africa, who took possession of the south, and the Celts from Gaul, who passed into the north. These were afterwards increased by the Carthaginians, the Romans, the Suevi, the Alani, the Vandals, the Arabs, and the French. About the close of the eighth century Spain was possessed by four distinct nations. Most of the natives had united with the Romans, and were known by that name. The Goths, comprising the remains of the Suevi, Alani, and Vandals. The Moors, with whom the nations of Africa were intermingled, and who occupied extensive tracts in the south; and the French, who possessed great part of Catalonia, Navarre, and the Pyrenees. As the situation of Spain was inviting, and the climate salubrious, its population was swelled by an unusual influx of Romans. Spain was subject to the Vandals in the early part of the 5th century; to the Visigoths towards its close; and a great part of it was subjugated by the Moors during the 8th century. But, as these last were afterwards driven from the peninsula, the present Spaniards may be considered as the descendants of the Iberians, the Gauls, the Romans, the Vandals, and the Visigoths.

In attempting to trace the PROGRESSIVE GEOGRAPHY of this part of the European continent, a barrier presents itself, prior to the Roman conquest, which we cannot pass. When Spain became a province of that mighty empire, it was at first divided into two parts, *Hispania citerior* and *ulterior*; but this division was soon superceded by another into three provinces. These were *Bætica*, which occupied the southern regions; *Lusitania*, including the western parts, from the mouth of the Douro to that of the Guadiana; and *Tarraconensis*, embracing all the remaining regions, and nearly corresponding with *Hispania citerior*. After the conquests of the Visigoths these divisions were neglected, but those of the Moors were followed by a distinction into Christian and Mahomedan Spain. The kingdoms of Arragon and Castile were long distinct from each other. The former, besides the kingdom of that name, comprised the kingdom of Valencia, the principality of Catalonia, and the kingdom of Majorca, in the Mediterranean. That of Castile included the other parts. But the whole became united in one monarchy by the marriage of Ferdinand the 5th, king of Arragon, with Isabella queen of Castile.

The Spaniards now adopt two divisions, the one military and the other administrative. To answer the first the whole kingdom is divided into a number of governments, the superintendants of which are styled captain generals, except in Navarre, where he has the title of viceroy. These are the governments of Madrid for New, and of Zamora for Old Castile; of Barcelona, for Catalonia; of Valencia, for the kingdoms of Valencia and Murcia; of Palma for the kingdom of Majorca; of Pampeluna for the kingdom of Navarre; St. Sebastian, for Biscay; St. Maria, for Andalusia; Malaga, for Granada; Corunna, for Galicia; and Badajoz, for Estremadura. Besides these, there is a government for the African possessions, and another for the Canaries. Geographers, however, adopt the division into provinces. The Spaniards are so defective in statistical information, that no exact statement of the number of inhabitants in the different provinces can be given. The following has been collected from the most authentic accounts.

FOUR PROVINCES BORDERING ON THE MEDITERRANEAN.

<i>Provinces.</i>	<i>Population.</i>		<i>Chief Towns.</i>	<i>Inhabitants.</i>
Principality of Catalonia..	858,800	....	Barcelona	110,000
Kingdom of Valencia	825,000	....	Valencia	70,000
Kingdom of Murcia.....	383,000	....	Murcia.....	45,000
Kingdom of Granada	693,000	....	Granada	50,000

FIVE PROVINCES BORDERING ON THE OCEAN.

Andalusia	1,200,000	....	Seville:.....	100,000
Galicia	1,142,600	....	Compostella	12,000
Principality of the Asturias	364,200	....	Oviedo.....	7,500
Old Castile	995,000	....	Burgos.....	9,000
Biscay	283,400	....	Bilboa.....	15,000

FIVE PROVINCES OF THE INTERIOR.

Kingdom of Arragon	657,400	....	Saragossa	40,000
Navarre	230,000	....	Pampeluna	14,000
New Castile	1,220,000	....	MADRID	170,000
Kingdom of Leon	930,000	....	Leon	7,000
Estremadura	430,000	....	Badajos	14,500

The Spanish Islands in the Mediterranean, are usually called the *Kingdom of Majorca*, and contain a population of about 187,000.

With respect to the relative population of European Spain, no correct estimate has lately been made. From *Hassel's* statistical account of Europe, it appears that Galicia and Catalonia are the most populous provinces, each containing about 98 persons to the English square mile; while Estremadura, and some other parts, have not more than 25 on the same space. Valencia is the next in population, and contains about 90 individuals to every square mile; while the Asturias, and the provinces of Murcia and Arragon, have each about 68, and those of Navarre, Granada, and Castile, nearly 50.

CHAPTER II.

Outlines—General Surface—Mountains—Rivers—Canals—Lakes—Climate- and Seasons—Soil—Culture—Products.

THE OUTLINES of this country present but few irregularities, and both the indentations and projections are inconsiderable, when compared with its great extent of coast. The chief capes on the east are those of Creux, St. Sebastian, Nao, and Palos. On the south, those of Gata and Europa Point, on which Gibraltar stands. On the west, Cape Finisterre is the most remarkable; and on the north Cape Ortegal, Point Estaca, and Capo de Penas are all that deserve enumeration. The principal indentations are rather large sweeps than deep inlets. The Gulf de Rosas, on the south of Cape Creux, and another on the north of Cape Palos, are on the eastern shore. A deep bay gives access to Almeria on the south, and various inlets indent the western coast of Galicia both on the north and south of Cape Finisterre. On two of these stand Ferrol and Corunna. The mountains which spread over the surface of Spain, and reach the coast, give it, in many places, a bold and prominent appearance.

THE GENERAL SURFACE of Spain is alternately rugged and smooth, barren and fertile; and though approaching to mountainous, the aspect is highly diversified and agreeable. But in the summer the southern landscape manifests the powerful influence of the solar beams in the parched appearance of its herbage. M. *Humboldt*, whose interesting memoir on this subject is printed in M. *De Laborde's* View of Spain, observes: "No country in Europe presents so singular a configuration as Spain. It is this extraordinary form which accounts for the aridity of the soil in the interior of the Castiles; the power of evaporation, the want of rivers, and the difference of temperature which is observable between Madrid and Naples, two towns in the same degree of latitude." The interior of Spain, especially the two Castiles, is a plateau, which exceeds in height and extent any other in Europe. The mean elevation of this plain is about 1800 feet, and the mean height of the barometer at Madrid is more than two inches less than at the level of the sea; hence the pressure of the atmosphere is nearly one-fourteenth greater on the coast than at the capital. This height has a powerful effect on the temperature, and orange-trees can no longer stand the open air, though in the same latitude as Calabria, Thessaly, and Anatolia.

Numerous rivers and streams adorn the lower parts of the country, and the long chains of rugged mountains give a varied grandeur to the landscape; while the rich pastures, extensive vineyards, orange groves, and beds of odoriferous plants, constitute the minor graces of the scene. Where the depth of soil is sufficient, bulbous-rooted plants abound. These, with a numerous train of other attendants on the Spring, mingle their blossoms in the most rich and varied profusion. The inferior hills often consist of parched districts, forming calcareous sheep-walks, overspread with a scanty vegetation, or are covered with wood. The heaths diffuse more delicious odours in Spain than in any other country of Europe. The aromatics are extremely numerous, and the hum of bees, in consequence, almost perpetual. The golden blossom of the broom, with heaths of every hue, and myriads of contrasting flowers, combine to vary the colouring of the richly

glowing carpet. Here the aloe puts forth its perfumed blossoms, and drops its gum unnoticed by the side of the Indian fig ; and where the thirsty and unsheltered soil prevents the growth of other plants, the cistus spreads over every spot of sand or rock, and fills the air with its sweets. In those parts where moisture is more abundant, the mulberry, the olive, the vine, the orange, the lime, and the peach, with others, that luxuriate in the genial heat of the sultry climate, intermix their delicious fruits.

Spain presents the lover of the sublime pictures of nature with numerous scenes which excite feelings bordering upon rapture. The road which runs through the whole of the Asturias, from east to west, is eminently rich in this scenery ; respecting which M. De Laborde observes : “ At times we are at the very top of the highest mountains, the prospect from which extends far on the sea ; at others we find ourselves, as it were, engulfed in a narrow passage, where the view is limited to a few yards, or perhaps less, while above us the mountains rise in peaks, and hide themselves in the clouds. Now a thick and dark wood excludes the day ; now, and perhaps suddenly, the reflection of the sun on white rocks dazzles and distresses. Here we behold all the roughness of parched and sterile nature ; there all the riches of vegetation, fresh and vigorous ; then, again, mountains covered with snow, which braves the summer solstice, while at their bases groves teem with roses and all the flowers of the spring, which ornament, during the winter, these delicious vales, we meet every instant. Limpid and wholesome water, springs spouting out of the earth, cascades and fountains are found in a thousand places ; an assemblage of every shade that verdure can present, enchant the traveller, wearied with the sight of barren rocks, or the uniformity of the colour reflected by the ocean.”

The Spanish MOUNTAINS seem to be connected together by the great central plain. They form a semicircular range near the eastern shore, sheltering it from the north and north-west winds, and producing the mildest climate on that side of the country. From these other ranges run in almost parallel directions towards the west, through the whole extent of the country, and cause the rivers that rise in the eastern chain, with the exception of the Ebro, to fall into the Atlantic. The first chain, on leaving Cape Finisterre, stretches through the whole of the north of Spain, and joins the Pyrenees, which unite Spain to the continent. The ramifications that diverge from the southern side of the Pyrenees, impart a mountainous character to the north-east of Spain. It was this northern cordillera that enabled the Christians who were driven into the Asturias, so long to withstand the attacks of the Moors. From its southern flanks spring the rivers Minho and Douro, that roll their waters into the Atlantic, as well as the Ebro, which flows into the Mediterranean. It divides the province of Asturias from the kingdom of Leon, and admits of few passes from the one to the other. This chain is connected with the Pyrenees on the east. Though these mountains constitute such a formidable barrier between France and Spain, they allow of an easy communication between them. More than sixty passes afford the means of intercourse on foot, twenty-eight on horseback, and seven with carriages. Of these last, however, only three are frequented. The first is at the western extremity, from St. Jean de Luz, across the wooden bridge over the Bidazoa, which divides the two countries, to Irun, a small town in Spanish Guipuscoa. This is the pass by which the main body of the English army advanced after the fall of St. Sebastian. Another passage is from St. Jean-pie-de-Port, in the French department of the Lower Pyrenees, across the mountain of Altobiscar to Roncevaux, in Spanish Navarre. But this route is generally pursued on horseback. The third is the most frequented, and is at the opposite extremity of the chain. It proceeds from Perpignan, in the French

department of the eastern Pyrenees, over the river Tee, through the passage of Pertus, the ancient Portus, to La Junquera, the first town in Catalonia.

From the northern chain, about $4^{\circ} 10'$ of longitude, and between the source of the Douro and the Ebro, a range of mountains stretches nearly north and south, which Antillon proposes to call the Iberian chain. This range partly divides Castile from Arragon, pervades the kingdoms of Valencia, Murcia, and Granada, and extends to the coast at Cape Palos, while some of its ramifications reach the shore further north. This ridge divides the waters that flow into the Atlantic from those that fall into the Mediterranean. Some of its elevations rise to nearly 4000 English feet above the level of the sea.

From this chain others extend towards the south-west. The most northern of them separates the basins of the Douro and the Tagus. Commencing between the sources of these rivers, it stretches on the north of Madrid, assuming various names and elevations as it passes to the confines of Portugal. The general appellation of Montes Carpentanos, is sometimes applied to the whole chain; and the Sierra de Parede the Somosierra, and the Guadarama, are all parts of it. The appearance of this range may be readily conceived from its appellation *Sierra*, which, in the Spanish language, implies something resembling the teeth of a saw. The towering summit of Pignalara, in its vicinity, rises to the height of about 7000 English feet.

Another mountainous ridge stretches in the same direction and divides the basin of the Tagus from that of the Guadiana. Though at first it is not very elevated, it soon becomes more lofty and abrupt; and after rising into summits which are distinguished by different names, it enters Portugal and traverses that country to the coast. A third range runs south-west, separating the basins of the Guadiana and the Guadalquivir. It forms the Sierra Morena, or brown mountains, and extends through Portugal to the south-west extremity of Europe, where it terminates in the bold promontory of Cape St. Vincent. This chain is of inferior elevation to either of the former. Beyond these the range of Alpuxarras form the great southern rampart of the kingdom. It is nearly parallel to those above mentioned, and less extensive but more elevated. It runs through the southern provinces and terminates in the rock of Gibraltar.

The loftiest summit of the Sierra Nevada, which is the most elevated part of the chain in Granada, is that of Mulhacen, which surpasses the noted Mount Perdu, the highest point of the Pyrenees. The height of the latter was determined in 1804, by Don Clemente Roxas, to be 1824.47 toises, or 11,669 English feet; while the Pico de Volenta is 1781.16 toises, or 11,392 feet. These exceed the highest summit of the Pyrenees, which is only 1763 toises, or 11,271 feet. This peak is on the Spanish side of that chain, while the most elevated point on the French side is only 11,014 feet. According to this statement, Mulhacen is only 486 feet lower than the peak of Teneriffe. The principal summits of the Sierra Nevada are covered with perpetual snow. Several other short ridges and detached mountains diversify the eastern part of Spain; of which Montserrat, near Barcelona, is one of the most remarkable. The height of this mountain is such, that the islands of Majorca and Minorca, situated at the distance of 50 leagues, may be seen from its summit. Its distant appearance is conical, but when approached, it is found to be composed of a collection of peaks, which give it a completely serrated character.

Most of the Spanish mountains are calcareous, and form nearly one vast mass of marble. No traces of volcanoes have yet been discovered among them. Their general direction, and the courses of the rivers, evidently show that the Spanish peninsula consists of two great declivities, the one facing the Mediterranean, and the other the Atlantic. The various inclinations which form the slopes of the

different basins are merely subordinate descents. Many parts of these chains are covered with **FORESTS**, which, though often extensive, “have neither the majestic loftiness, nor the depth of shade, of those in the more northern countries. The trees are of thin foliage, and of mean growth; but many of them are of the mast-bearing kind, and the sweet acorns and chesnuts of the woods afford the unbought food of the primitive ages to the rustic inhabitants.” Several districts of Spain, however, are almost destitute of foliage. The two Castiles, *Estremadura*, and *Arragon*, are all thinly wooded; but in the maritime provinces woods are more abundant. *Catalonia*, *Valencia*, *Murcia*, *Granada*, and *Andalusia*, present numerous forests. The mountainous parts of *Galicia* and *Asturia* are also clothed with trees of various kinds; but the extensive forests of *Biscay* have been much diminished, from supplying the mines in that district. Palm-trees grow in all the eastern and southern parts of Spain. Dates mingle largely in the forests of *Valencia*. The cork-tree grows abundantly in many of the mountains, and its bark supplies a valuable export. *Catalonia* alone yields about 1600 tons of cork annually. Oaks of various kinds flourish in great luxuriance, among which are those that produce the *kermes*, or gall insect, and the ever-green oak, which forms a prominent object in the Spanish forests. The acorns of this tree are large and sweet, and not only constitute a chief article in the food of the poor, but are roasted and produced at table as a luxury. Besides these, beeches, chesnuts, elms, walnuts, and hazles, with limes, mountain-ash, yew, box, birch, and juniper, grow in most provinces. The wild-olive tree, and the carob-tree, the beans of which are collected as food for cattle, grow in various parts. The almond fixes itself in the crevices of the rocks, while numerous ever-greens offer a shelter from the scorching beams of the meridian sun, which is denied by the scanty foliage of the larger trees.

That the sources and directions of **RIVERS** are determined by the positions of mountains, is strikingly exemplified in this peninsula. The Spanish rivers rise towards the head of the great chains, and follow their directions till they are lost in the ocean. The numerous chains of mountains, and their diverging branches, divide the peninsula into a variety of basins, each of which has its principal river, that collects the tributary streams which adorn the adjacent declivities. Nine of these rivers deserve a brief description. They are the *Tagus*, the *Douro*, the *Minho*, the *Guadiana*, and the *Guadalquivir*, which flow into the Atlantic; with the *Ebro*, the *Guadalaviar*, the *Xucar*, and the *Segura*, which descend into the Mediterranean.

The **TAGUS** is the largest stream in the peninsula, and has been already mentioned in the general view of Europe. It rises near the north-eastern confines of the table land of Castile, flows towards the south-west, passes Madrid, and collects the waters from the opposite flanks of the ranges of *Carpentanos* and *Toledo*. Supplied with copious stores from these elevated regions, it soon becomes a noble river, and though no longer celebrated for its golden sands, its ample stream admits the treasures of commerce to be wafted by the western gales to the heart of the peninsula. After passing the boundary of Portugal it gradually enlarges till it opens into the great estuary in the west of that kingdom, and rolls its copious flood into the Atlantic.

The **DOURO** issues from the south-west of the mountainous range, which stretches from the northern Cordillera towards the Mediterranean, and winds through the basin formed by the mountains of *Carpentanos* on the south, and those of *Asturias* on the north. Like the *Tagus*, it receives numerous tributary streams and becomes a large river before it has completed half its course. Its waters are celebrated, but its bed is often rocky, and its course rapid. After floods occasioned by the torrents that roll from the adjacent mountains, particles of gold

were formerly found in its sands, and are still sometimes met with. It crosses a great part of Spain, passes through the whole of Portugal, and terminates in the Atlantic after a course of 420 miles.

The MINHO originates in the north-west of Spain, and derives its principal supplies from the mountains of Asturias, Galicia, and Leon. It flows towards the south-west till it reaches the confines of Portugal, and, having separated that country from Galicia, it pours the united waters of numerous mountain streams into the Atlantic, after a course of one hundred and forty English miles; but it is of little use to navigation.

South of the Tagus, the GUADIANA pursues its extended and winding course. Rising from the mountains which front the eastern shores, and flowing between the ranges of Toledo and Sierra Morena, it follows the sinuosities of the magnificent valley formed by these ridges. It is supplied with abundant streams from each flank, and becomes a noble river long before it reaches the confines of Portugal, below the city of Badajos. In Spain it takes a western course, but being obstructed in that direction, it winds to the south-west, and afterwards to the south, till it forms the boundary between the two peninsular kingdoms, and enters the ocean after an extent of 400 hundred miles. Part of this course is subterraneous, from which it rises through various openings, called *Los Ojos de Guadiana*.

Still further south, the *Guadalquivir* intersects the delightful plains of Andalusia, forming the receptacle for the waters of that extensive basin, and passing the cities of Andujar, Cordova, and Seville, to the Atlantic a little above Cadiz. It was formerly navigable for ships of large burden to Seville, but its bed has been so filled with sand, that this is no longer practicable. Its whole length is about 350 miles.

The principal river on the east side of the peninsula is the Ebro, the ancient *Iberus*, which conferred the appellation of Iberia upon the country. It descends from the southern declivity of the northern range, and flows through the kingdom of Arragon, divides Catalonia from Valencia, and pours its mighty floods into the Mediterranean. Fed by the rivers that descend from the southern flanks of the Pyrenees, on the one side, and the south-eastern chain on the other, the Ebro soon becomes the deepest and most rapid river in Spain; but its shoals and rapidity render it of little service to navigation. These, however, make it eminently useful for the purposes of irrigation; for its waters, conducted by canals, from above these rapids, water the fine country near its banks, and are then conveyed back to the river below the falls. Its length is about 400 miles, and its accumulated stream is discharged by two outlets, one on each side of Cape Tortoso.

The other Spanish rivers are of much less magnitude. The *Guadalaviar* and the *Xucar* flow through the kingdom of Valencia, and fall into the Mediterranean between the Ebro and Cape Nao. The former is principally confined to Valencia, but the latter has its source in the mountains of New Castile. The length of the Xucar is about 200 miles, and that of the Guadalaviar 130. The *Segura* rises near the eastern confines of Murcia, and flows to the south-east, till it reaches the capital of that province, where it winds to the north-east and enters the sea after a course of 140 miles.

With the view of promoting the inland navigation and domestic commerce of the country, many magnificent CANALS have been projected in Spain, but few of them have been completed. The principal of these works are the Canals of Manzanares, Arragon, and St. Carlos. The first was intended to open a communication between the capital and the river Xarama, which was then to be made navigable to the Tagus, and would thus have given access from Madrid to the ocean. But an insignificant cut, admitting barges of 45 tons burden for about three leagues

from the capital to the Xarama, is the only part of the original design which has yet been executed. The *Canal of Arragon* is a noble undertaking, commencing near Tudela in Navarre, whence it receives the waters of the Ebro by a number of sluices, in an extensive dyke which separates it from that river. No other work of Spanish industry is to be compared with this, either in reference to the extent and utility of the undertaking, or the magnitude of the works by which the difficulties of the construction have been overcome. From the point of its commencement to Sastago, near the confluence of the river Martin with the Ebro, it is nearly 90 English miles in length, 64 feet broad, and nine at its least depth. It admits vessels of 135 tons burden. This noble undertaking was begun by Charles V., and resumed in 1770, but was not finished for several years after that period. In one place it passes through a mountain, and in another it is carried over the river Xalon, by an aqueduct 4260 feet long. Five canals, cut for the purposes of irrigation, and two great roads, also pass under it, and not less than 100,000 acres are irrigated by its waters.

The *Canal of St. Carlos* was cut from the river Ebro above Emposta, to the sea at that place, to avoid the navigation of the river, which is there impeded by sand banks. This, and the canal of Arragon, form part of the projected system which was designed to connect Navarre with the Mediterranean and the bay of Biscay.

Though Spain is a mountainous country, it is not distinguished either for the number or extent of its LAKES. The lake of *Sanabria*, south of Astorga, in the kingdom of Leon, is about three miles long and one and a half broad. The river Juerto rushes through it with such rapidity as to agitate its surface, and give it the appearance of a small sea. It contains abundance of trout, and has a fine old castle belonging to the Counts of Benevente, situated on a rock near its centre. There are some small lakes, also, in the Pyrenees, and two in the north of Old Castile, where the Tagus has its origin. Spain contains a few small salt lakes, especially in the kingdom of Valencia, one of which, near Villena, is about two miles in circumference.

The situation of Spain renders its CLIMATE one of the hottest in Europe; but as this depends upon local circumstances, as well as relative position, it is greatly influenced both by external and internal causes. The extensive ranges of mountains that intersect the country, mitigate the intensity of the solar heat, and the vast extent of coast is tempered by the proximity of the ocean, from which Spain derives advantages nearly similar to those of an insular region. The central parts, which from their situation would be the hottest, are so elevated as to be, in fact, the coldest; and the orange-tree, which flourishes abundantly in other places, can no longer bear the winter on this table land. The elevated provinces on the north and north-east are also exposed to severe cold; but the air is dry, serene, and healthy, except during the equinoctial rains. Near the bay of Biscay, and on the snowy mountains of the northern Cordillera, the atmosphere is so subject to extreme moisture, that the utmost care is insufficient to prevent its effects. In the valleys of the south the heat is often excessive in the summer, and is sometimes accompanied with malignant fevers. The hot winds from the burning sands of the African deserts, occasionally sweep over the southern district during June, July, and August. The general climate, however is salubrious; and few countries can present more instances of longevity than Spain. Its temperature, therefore, differs greatly in its various parts. The elevated site of the Spanish capital, which exceeds 2000 feet above the level of the sea, renders the air more temperate there than in several other places in higher latitudes. The annual temperature at Madrid is about 59° of Fahrenheit's thermometer, which is 2° less than that at Genoa, though its

latitude is 4° more than that at Madrid. It is also $4^{\circ}\frac{1}{2}$ less than the temperature of Naples, which is in a higher latitude than the Spanish metropolis. The average temperature at Madrid for August is about $81^{\circ}\cdot 5$ and that of January about 39° ; that of the other months is intermediate to these; March being about $47^{\circ}\cdot 5$ and September about $65^{\circ}\cdot 5$. Near the coast, the temperature is much greater; and from the 36th to the 41st degree the mean of the year varies from $63^{\circ}\cdot\frac{1}{2}$ to 68° ; which admits the cultivation of the orange, citron, coffee, and even the sugar cane in sheltered situations.

Where a country presents such a variety of elevation and exposure as Spain, not only the temperature and the moisture, but the serenity of the atmosphere and the prevailing winds must also be variable. Estremadura is hot and dry. The summer is intense and the winter mild. On the shores of Catalonia the weather is subject to constant changes.—Winter begins in November, and varies in its rigour according to the position and elevation of the different parts. It is mild along the whole southern and eastern regions, while the mountains that rise immediately behind them are early covered with snow. Near the north-west coast, which is exposed to the northern gales, and where the east wind sweeps over the frozen Pyrenees before it arrives, the winters are proportionally inclement, while in most others they are scarcely so cold as to require fires. The snow usually begins to melt in February, and in March the rivers are changed into torrents. In these two months, as well as in October and November, much rain falls. The spring begins at different times. In Granada and Andalusia, the fields are seldom destitute of flowers, even in January; but these early harbingers of spring await the termination of February before they enamel the meadows of the interior. Throughout the kingdom, March, April, and May, are delightful months; Nature smiles in every prospect, and every breeze is loaded with the perfume of millions of odoriferous plants. The heats of June and part of July are tolerable, except in the south: but the noon beams are scarcely to be borne from that time to the middle of August. Yet the mornings and evenings are pleasant, being refreshed by the western gales in the interior, and by alternate sea and land breezes on the coast. September and October are generally temperate, clear, and pleasant. Storms are unfrequent, and earthquakes rare.

The SOIL of Spain varies greatly in different parts. Its general character is light and friable, though in some places stiff clay abounds, and in others an arid barren sand. In many of the vallies, however, it is a rich loam, incumbent on a calcareous basis, and yields the most abundant and varied crops of vegetables. Gypsum abounds in many parts of the country, but the immense unproductive tracts over which the traveller passes in almost every province, are rather evidences of neglected cultivation than proofs of an ungrateful soil. Many of the highest mountains, indeed, are rugged, stony, and sterile; but those of inferior height, and the lower parts of the most stupendous, afford excellent pastures.

Under proper cultivation few countries in Europe would be more productive than Spain. Such, indeed, was the fertility of this peninsula in former times, that in its western regions the ancients fixed the site of their Elysian fields, and the gardens of the Hesperides. At a subsequent period Spain became the granary of the Roman empire. "Agriculture under the Moors was in a still more flourishing state. That people, when they obtained possession of Spain, carried with them their methods of husbandry; they broke up the uncultivated lands, augmented the number of plantations, carried the art of irrigation to a degree now difficult of attainment, introduced the culture of rice, and greatly improved the breed of horses. Every kind of production was increased under their improving hands. Andalusia, the kingdom of Murcia, and Valencia, still retain visible marks of their

skill and industry ; and the era of their expulsion designates the epoch of the decline of agriculture.”—*Laborde's View of Spain*.

The present population of Spain is inadequate to its proper culture ; and the deficiency is greatly increased by the country being almost deserted for a residence in the towns. An immense proportion of that industry which ought to be employed in producing the necessaries of life is also wasted on the superstitions and festivals of the church. Notwithstanding the languid state of Spanish agriculture, *Wheat* is grown in most of the provinces, and is generally of an excellent quality ; but Andalusia and Murcia yield the largest quantities. Rye, oats, barley, maize, rice, flax, and hemp, grow in many parts. The sugar-cane and cotton-tree, are cultivated in the south, as well as the barilla plant. This last affords a lucrative article of commerce, and Murcia alone yields about 9500 tons of barilla annually. Many of the most delicious fruits flourish in Spain, particularly oranges, lemons, citrons, figs, grapes, apricots, peaches, almonds, and melons, which grow in many places almost spontaneously. The best almonds grow near Alicant, in Valencia, and the annual produce of this fruit has been estimated at 215 tons ; 190 of which are exported. Nuts grow abundantly in the northern provinces, where they form a lucrative article of trade. The annual quantity is about 100,000 bushels ; four-fifths of which are exported. Valencia alone yields more than 40,000 tons of olives.

Spain may justly be denominated a land of Vines. The provinces of Seville and Granada have often been called the vineyards of Spain. The *espaliers*, which are extensively cultivated in Valencia, also yield grapes as large as nutmegs, and in bunches of 10 or 12lbs each, which are frequently converted into raisins of an excellent quality. Dates, mulberries, chesnuts, and sweet acorns are also common. Honey, wax, and silk, are among its natural productions. Apples and pears likewise grow in some of the northern provinces.

Among the domestic ANIMALS of Spain, the horse, the ass, the mule, and the sheep, have long been celebrated. The remainder of its Zoology corresponds to that of the other parts of southern Europe. The Spanish horses are principally indebted for their superiority to the improvements of the Arabs. They are much the finest in that part of the country where they chiefly resided, but those held in the highest estimation are reared in the kingdom of Cordova. The Spanish horses were so famed among the Romans for their swiftness, that in their hyperbolic mode of expression, they denominated them the offspring of the winds.

The Spanish Ass is not the tame, stupid animal we see in this country. It is handsome, hardy, active, and useful ; and sometimes thirteen or fourteen hands high. The animal, however, mostly used in Spain for all the common purposes of life is the mule, which is patient of fatigue, surefooted, and content with a scanty supply of food.

Spain appears, from the earliest period of its history, to have been a country of flocks, and its wool was held in great estimation by the Romans. The sheep are of two kinds ; the one species graze in the fields during the day, and are penned at night. The others travel from place to place, according to the season, and the supply of food which the mountains or the plains afford. These are the *Merinos* or *Transhumantes*, which in spring are collected into flocks of about 10,000 each, called a *Mesta*. At that period they commence their annual journey, sometimes of three or four hundred miles, to feed on the mountains during summer.

On the approach of winter, they return to the plains and vallies of the lower and warmer provinces. The flocks of Catalonia, Arragon, and Biscay, of Valencia, Murcia, and part of Andalusia, estimated at about eight millions, are stationary ; while about five millions, belonging to the inland provinces, are constantly roving

from pasture to pasture. The whole produce of Spanish wool has been stated at 500,000 quintals.

Horned Cattle are not numerous; and the number bred is inadequate to the consumption of the country, as many are annually imported. The Spanish bulls have long been celebrated for their fierceness, and the savage delight they so frequently afforded to thousands of all ranks in the horrid spectacle of bull-fights. But humanity has finally triumphed over the barbarous custom, and the practice was suppressed by a royal edict in 1805. Swine are numerous in all the northern provinces, where they are principally fed on sweet acorns.

The bear, the lynx, and the wolf, prowl on the skirts of the Pyrenees. The bear is also met with in the mountains of Old Castile. The wild boar, the roe-buck, the stag, and the fox, abound in all the woody mountains of the northern provinces. Game of all kinds is abundant, but there are fewer small birds in the interior than in most other countries. The northern and western seas are plentifully supplied with fish, while on the coasts of the Mediterranean some peculiar species are found. One of these is the purple fish, from which the dye is extracted.

Most of the rivers in the northern parts supply salmon, trout, barbel, bream, and eels. The most valuable of the Spanish insects is the kermes, which is found in the southern provinces on the *ilex occifera* and the Indian fig. The provinces in the Mediterranean are also sometimes visited by immense swarms of locusts, whose progress is attended by the destruction of every vestige of vegetation. Serpents are often large, and the lizard attains an immense size.

Spain has in all ages been literally a country of MINERALS. The Phœnicians, the Carthaginians, and the Romans, drew immense treasures from it. The vast cavities from which they were extracted still bear evidence of the extent to which these researches were carried. But the indolence of the inhabitants, and the riches of their trans-atlantic possessions, have rendered modern Spain much less productive in this respect.

Gold is now chiefly found in small particles in the sands of rivers, particularly in those of the Douro and the Tagus, near Toledo. It also occurs in spangles, in two mines of emery, and in a ferruginous quartz in a mountain in Old Castile. The quantity, however, does not defray the expense of working.

Various parts of Spain yield *Silver*, of which metal a very considerable portion was obtained by the ancients, though little is now procured. The only mine which has lately been worked, is in the Sierra Guadalupe, near the village of Logrosen in Estremadura; but the rich stores of the New World soon caused them to be abandoned. Several mines of *Copper* are worked with success. It occurs in the projections of the Pyrenees, near Pampeluna, in Navarre, and in the neighbourhood of Arragon. In the mountainous ridge of Guadarama, in that of Guadalupe, in Old Castile, in Estremadura, at different places in the kingdom of Seville, and near the city of Cordova. It is also obtained in Granada, Murcia, and Valencia.

All the Spanish provinces produce *Iron*, but those in which it is most abundant are situated in the north. Catalonia, Navarre, Arragon, and Biscay, are all noted for this metal, and the latter province is nearly composed of it, either in beds, blocks, or veins. In the vicinity of Bilboa it is particularly rich; but the most celebrated mine is that of Samosostro, where the ore forms an irregular bed in a hill of limestone, from three to ten feet thick, and yields about thirty per cent. of soft, ductile, and malleable metal. This mine was first worked by the Romans, and still yields great quantities.

Tin is found only in the mountains of Galicia. *Lead* is met with in both the northern and southern provinces; *Antimony* in the province of La Mancha, and *Cobalt* in Arragon. *Quicksilver* is found in the kingdoms of Valencia and La Mancha.

This latter mine is the most productive in Spain, and is worked by the king's agents. Black lead has also been discovered in the kingdom of Seville ; *Sulphur*, in Arragon, Murcia, and Granada ; *Asphaltum* and *Petroleum*, in the former province ; and *Jet*, in the Castiles and Arragon. *Coal* is obtained only in Catalonia, though it doubtless exists in other parts. *Rock-salt* is likewise found in several places of so pure a quality that it is made into ornamental articles. Salt is also obtained from springs and lakes.

Marble is the most abundant of the earthy minerals of Spain. A great part of the country is literally an immense bed of this valuable substance. Many of the provinces yield a beautiful species, but Granada perhaps abounds most with elegant varieties. Among those is a pure white, of which an entire mountain near Almeria is composed. A flesh-coloured species is found near Antiquera ; and admirable alabaster in the vicinity of Granada, as well as a fine-veined kind in the Sierra Nevada.

Several of the mountains are composed entirely of limestone. Those which nearly encompass Toledo, and some of those of Catalonia consist of granite. Crystallized *quartz*, in small pyramids, remarkably brilliant and colourless, or tinged with red or yellow, is found near Alicant. *Amethysts*, *agates*, *chalcedony*, and *garnets*, are met with both in Catalonia and Granada. *Topazes*, *cornelians*, and *rock-crystals*, have likewise been obtained in various places.

Amidst such a mass of minerals, several of the springs must be variously impregnated ; and among the MINERAL WATERS that have obtained notice are some thermal springs of great repute. The most noted cold springs are, the carbonated water at Gerona in Catalonia, a hepatic spring at Buron in Valencia ; and two saline springs near Madrid and Toledo. The chief thermal springs are a saline spring, of a temperature equal to those of Bath, near Alicant ; a copious hot spring near the city of Murcia, which was used by the Romans and the Moors ; another at Merida in Estremadura, which was also used by the Romans ; with others in Leon, Arragon, Galicia, and Granada. That at Almeria, in the latter kingdom, to which both common and vapour baths are attached, is one of the most noted in Spain.

CHAPTER III.

Principal Cities, Towns, and Buildings.

THE mode in which Spain is peopled, forms a complete contrast to Great Britain. Numerous cities and towns, with a wide country almost deserted, comparatively few villages, scarcely a farm-house, and a superabundance of convents, are its characteristics. The number of ciudades, or cities, are stated by Mr. Townsend at 145 ; that of villas or towns at 4572 ; of lugares, or villages, at 12,732, less than three times the number of cities and towns. The granjas, or farm-houses, the same writer states at 815, and the convents at 8932, more than ten times as many ! A more striking proof of the low state of Spanish industry cannot be exhibited !

The principal towns of Spain consist of two classes. Those of the interior possessing little trade or manufactures, and almost without communication with each other, are chiefly distinguished as the residence of the principal inhabitants. These are therefore centres of amusement rather than scenes of industry—places where all the energies of life are dissipated rather than employed. Several of these were the capitals of the ancient kingdoms and states into which the present Spanish monarchy was divided, and are still the provincial capitals of its members, some of which yet retain the title of kingdoms.—The towns of the other class are situated along the extensive coast, and are the busy scenes of nearly all the trade and commerce of the country.

MADRID is the metropolis of the Spanish monarchy, and is situated on several low hills, in the midst of a spacious plain bounded on the north by the mountains of Guadarama, and stretching to the distant horizon in all other directions. This plain, which constitutes a part of the high table land of New Castile, is nearly in the centre of the kingdom. It is a dry, arid, and naked expanse, destitute of trees, towns, or plantations, but watered by the Manzanares, which, though sometimes a deep and rapid torrent, is frequently dry during the summer.

This metropolis seems to have sprung from the country residence of the sovereign, in the vicinity of which houses were built in proportion to the frequency and continuance of the royal visits. Charles I., made it his general abode, and his son Philip II., transformed the seat of government from Seville to Madrid, in 1563. It is built in the form of a square, about two leagues in circuit, walled round, and entered by fifteen gates of granite, several of which are elegant. The gate of Alcala consists of three magnificent arches ; and the central one is 70 feet high. Madrid contains a great number of handsome streets, squares, and buildings. Some of the streets in the new parts of the town are wide and straight, but most of them in the old are narrow and crooked. They are paved with sharp-pointed stones, and some of the principal ones have foot-paths only wide enough for one person ; but they are well lighted. The street of Alcala, which is entered by a gate of that name, is the handsomest in Madrid, and its width is sufficient to admit ten carriages abreast. Its elevated site, and the mountains that skirt the northern limits of the plain, and are almost perpetually covered with snow, render the climate cool and changeable ; and little inconvenience is experienced from the heat of summer. The population, exclusively of the military and strangers, is estimated at 150,000, but including these 170,000 is about the number of people it usually contains.

Some of the squares are handsome, and several of the public buildings are elegant structures. The royal palace, which stands on an eminence at one of the extremities of Madrid, has four extensive fronts, adorned with pillars and pilasters. The interior is also richly ornamented, and the audience chamber, consisting of a double cube of 90 feet, is much admired. Many of the churches deserve attention, but rather for the decoration of the interior than for their exterior architecture. The number of churches and chapels in Madrid, including those which belong to the monasteries, convents, and hospitals, exceeds 130. and the ground they occupy, particularly the convents, is very extensive. Among other public buildings are the custom-house, the post-office, the state-prison, the town-hall, the council-house, and the academy of St. Fernando, together with several hospitals.

Another royal palace stands at the opposite extremity of Madrid, encompassed with handsome and extensive grounds. Madrid has also several public *Promenades*, most of which are beyond the walls, except the *Prado*, which is within the city. It is a spacious area, laid out in public roads and walks, adorned with avenues of lofty trees. It is provided with chairs and benches, and embellished with statues, and sculptured ornaments.

Madrid is simply the capital of the Spanish monarchy, without being either an emporium of commerce, or the seat of manufactures; and is principally supported by the presence of the court. The three chief manufactures of Madrid are those of tapestry, inlaid work in stone, and porcelain, all belonging to the king, and consequently unproductive to commerce. Thus situated, in the midst of an unpropitious soil, destitute of arts, manufactures, and commerce, and almost of industry, Madrid could not procure subsistence from the adjacent country for ten days. It is, therefore, absolutely dependent on the remote provinces or foreign countries, for every article of utility or ornament, and for all the luxuries and even the necessities of life. It is, in fact, only preserved from poverty and wretchedness by the money drawn from the provinces into the royal coffers, and afterwards distributed to those who attend the court, and monopolize the favours of their sovereign.

SEVILLE is situated on the Guadalquivir, and was formerly the capital of Spain, as well as the principal emporium of the American commerce, till the one was transferred to Madrid, and the other to Cadiz. This large and handsome city, the *Sevilla* of the Spaniards, and the *Hispalus* of the Romans, is one of the oldest and most renowned in Europe. Its origin has been sought in the remotest antiquity; and its foundation ascribed to Hercules, to Bacchus, to the Hebrews, to the Chaldeans, and to the Phœnicians. Its inhabitants have immortalized their memories by acts of heroism in the sieges they have sustained, and disgraced them, too, by their pusillanimity in opening their gates on the first approach of the Moors, thus giving a ready access to those enemies of the Christian name.

Seville stands in one of the finest plains in the south of the peninsula, and, though distant from the sea, is accessible by vessels of moderate burden. Its shape is circular, and its boundaries the same as left by the Romans. Its walls are flanked with one hundred and sixty-six towers, composed of a cement which time has rendered as hard as stone. It is entered by 12 gates, but the streets are ancient and gloomy. Many of the houses have large courts surrounded with galleries, and adorned with fountains in the centre. Several of the public buildings connected with the former prosperity of the city are noble edifices. Some of its suburbs are handsome; and the promenade, called the *Alameda*, is planted with trees, and ornamented with seats and fountains. Seville is the see of an archbishop, and its metropolitan church is a vast Gothic fabric, scarcely exceeded by any in splendour, except St. Peter's at Rome. Many of the other churches and convents are handsome edifices, and contain a great number of very fine paintings, and pieces of

sculpture, the work of native artists. The ancient palace of the Moorish kings, called *Alcazar*, is constructed with studied magnificence, and composed of various kinds of marble. It encircles a large space thickly planted with orange-trees, and ornamented with a great number of fountains. Seville contains several public and private libraries, among which is that of Ferdinand, the son of Christopher Columbus.

Seville has still manufactures of silk, earthenware, and tobacco; the last of which is carried on for the king, and gives employment to about 1400 persons. The whole population of the city and its suburbs has been estimated at 100,000.

GRANADA is a large city, spreading over two hills on the margin of a beautiful plain, near the southern base of the mountains of Sierra Nevada. It was built by the Moors, in the 10th century, and was soon distinguished for its extent, wealth, population, and the magnificence of its buildings. In 1235, it became the capital of a new empire, and afterwards the last bulwark of the Moorish authority in Spain. As a point of contest between the catholic kings and the Moorish princes, Granada is renowned in the annals of Spain; particularly for the final siege it sustained near the close of the 15th century. At that period the city was three leagues in circumference, and its ramparts were defended by a thousand and sixty towers, and 100,000 men. It had also two fortresses, each of which was capable of containing 40,000 soldiers. The inhabitants had then been increased to 400,000; for as the kings of Spain extended their conquests in Andalusia, the Moors quitted the country, and took refuge in Granada. But after sustaining a siege of more than twelve months, it was forced to surrender, and the Moors were finally expelled from Spain.

Granada being situated on an eminence commands an extensive view. It still contains several handsome squares, and many elegant buildings, with a population of about 50,000 individuals. Among the former are the El Campo, the plaza Mayor, and the Bivarambla; and among the latter the Alcazeria, the palace of the chancery, the ancient mosque, the cathedral, two hospitals, and the palace of the Alhambra.

The cathedral is remarkable for its handsome dome, resting on twelve arches, supported by twelve great pilasters. The Alhambra was formerly a vast fortress, situated on the Sierra del Sol, or mountain of the Sun. Among other structures, it embraced the palace of the Moorish sovereigns, the magnificent remains of which still evince the taste, the elegance, and the abilities of their artists. This palace crowned the summit of the hill, and commanded one of the finest prospects in the world. The noble city lay stretched beneath, all the parts of which were visible at once; beyond it was the wide-stretching plain, adorned by Nature, and diversified with works of art. Another seat belonging to the Moorish kings, situated above this palace, is still in existence, surrounded with gardens, groves, and orchards, abundantly supplied with copious fountains, and constantly favoured with a pure and mild atmosphere.

Ancient Granada, however, was not more distinguished for its wealth and power, its arts and luxury, than it was for its manufactures and commerce. Various kinds of woollen cloths and rich silks were among its chief articles, and some remains of the silk manufacture still exist, with several of salt-petre, and one of gun-powder, carried on for the king. Much of the alabaster and beautiful marble obtained in the neighbouring mountains, is also wrought there.

MURCIA stands on the left bank of the Segura, in a fine country watered by that river, and bounded on the east by rugged mountains, which rise at the distance of about a league. Its suburbs occupy the opposite bank of the river, which is crossed by a handsome bridge. The population of Murcia has been stated at 60,000; but this seems to include the inhabitants of the *Huerta*, or neighbouring country, which is dependent upon the city, and consequently the number belonging to the town itself cannot be computed at more than 45,000.

Murcia is celebrated in Spanish history by two singular events; the one ascribed to its governor, the other to its bishop. When it was besieged by a Moorish general in 714, the Governor having been defeated in an attempt to relieve the place, and driven to the last extremity, he had the women dressed in men's clothes, displayed them on the ramparts, and obtained an honourable capitulation. About ten centuries afterwards, during the wars for the succession to the crown of Spain, the archduke pressed on Murcia, which was an open and defenceless town. The bishop collected the people of the adjacent country, put himself at their head, and armed them as well as he could. To render this defence still more effective, he turned the river Segura out of its course, and inundated the surrounding plain; which not only prevented the advance of the enemy, but enabled him to act on the offensive, and subsequently to take Carthage, for which he was made a Cardinal.

CORDOVA is an ancient and spacious town, pleasantly situated on the northern bank of the Guadalquivir, where that river washes the base of a range of high mountains. The town is nearly square, and is enclosed with walls partly built by the Romans, as well as by the Arabs. Much of the space within these is laid out in gardens and orchards. Many of the buildings are dilapidated; and the inhabitants, who about the middle of the 17th century were 60,000, are now less than 30,000. The cathedral is the most singular in Europe, and consists of an old Moorish mosque, converted into a catholic church. It is not only constructed in the most curious manner, but is composed of the most costly materials.

BADAJOS, known both in Roman and Moorish times, but still more by the recent display of British valour, is seated on the Guadiana, near the confines of Portugal, and has always been considered as one of the strong holds of Spain. It is well fortified, and is entered by five gates; but is more celebrated for its sieges than for any other circumstance, as it has neither buildings, manufactures, nor commerce, that deserve particular notice. The British troops took it by storm on the 6th of April, 1812. The present population is about 14,500.

TOLEDO is an ancient, and was formerly a renowned, city. It was successively the seat of empire under the Goths, the Moors, and the kings of Castile. It has experienced all the fury of civil war, in which its walls have been demolished, its buildings burnt, and its streets, squares, houses, and even churches, stained with the blood of its citizens. It covers the sides and top of an insulated hill of granite, situated in a narrow valley; is watered by the Tagus; and encompassed at a short distance, with mountains of the most desolate and barren aspect. The external appearance of Toledo is not inviting, nor is its interior more agreeable. It is built in the form of an amphitheatre, in which the houses seem to press on each other. The streets are uneven and crooked, and there is scarcely one in which two carriages can pass. Being the metropolitan city of Spain, Toledo contains numerous churches, chapels, convents, and monasteries; with a proportionate number of ecclesiastics. The cathedral, and the palace, denominated the Alcazar, are among the monuments of antiquity most interesting to the stranger. The former is a majestic pile of Gothic architecture, esteemed the richest in Spain, and the latter stands in the highest part of the town, and commands a striking view of the surrounding scenery. Toledo has also a number of hospitals and charitable institutions, with a manufacture of pins and sword blades, for the excellence of which it is particularly celebrated. Its present population is about 20,000.

SARAGOSSA is the capital of *Aragon*, and is situated on the right bank of the Ebro. Its foundation has been ascribed to the Phœnicians, and it was a flourishing place under the Roman power. Surrounded with an open and fertile plain, washed by the noble Ebro, encompassed with extensive gardens which display the riches of the vegetable kingdom, and enjoying a clear sky and mild climate, few cities possess

a situation more delightful. It is one of the largest towns in Spain, but its population is disproportionate to its extent, the number of inhabitants not exceeding 40,000. Several of the streets are narrow and irregular, and the buildings ancient; but it contains many convents, and other public buildings. The church of Neusta Dona del Pilar is a superb edifice, about 500 feet in length, and such is the profusion of ornament which its interior displays, that it has been said the arts entered into a combination to effect it. Unlike most of the other cities of Spain, Saragossa is destitute of fountains, and though almost every thing is placed within its reach, it has neither industry nor commerce.

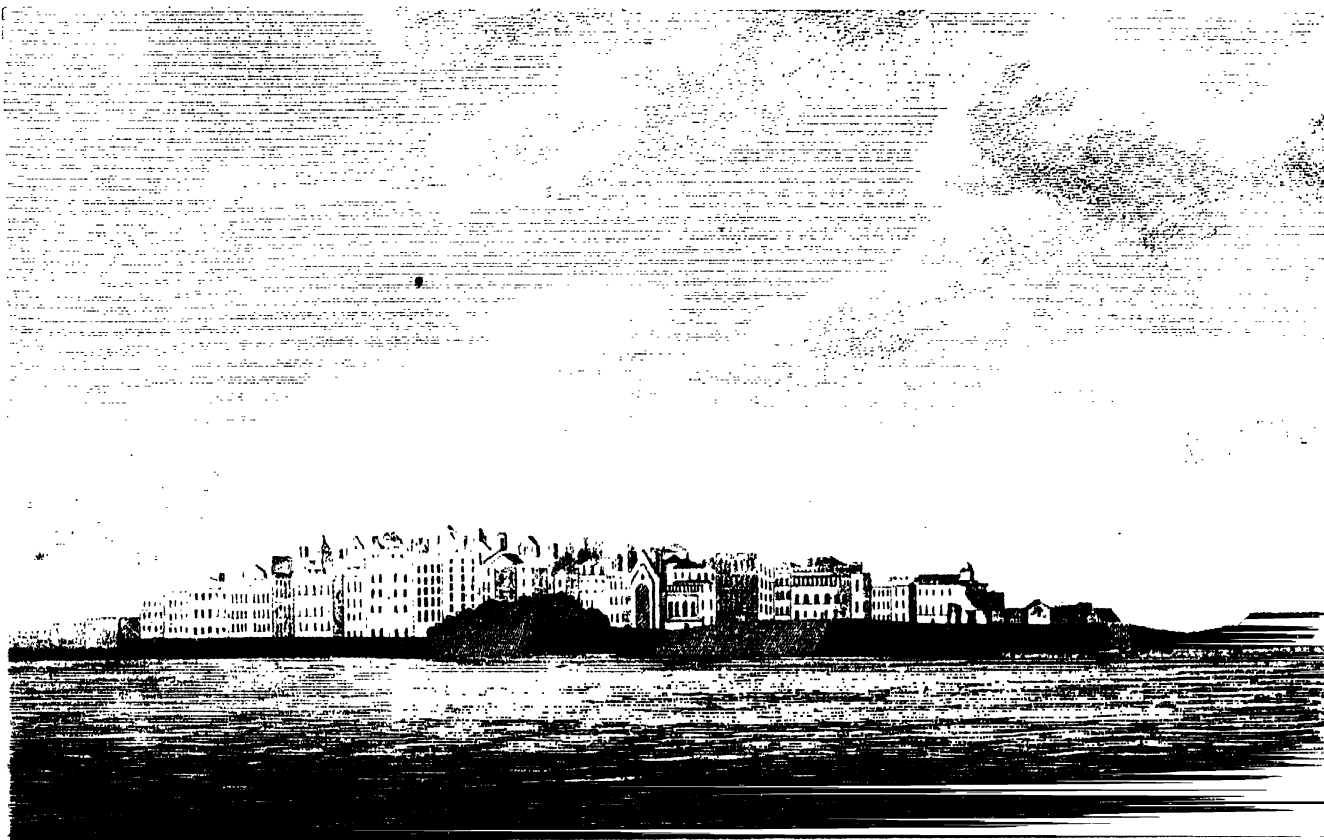
LEON, the ancient *Legio*, is situated between the sources of Esla, and is still an extensive town, bearing many vestiges of its former splendour, as the metropolis of the first catholic kingdom of Spain. Part of its ancient walls are composed of green marble, and though it was long the birth-place and residence of royalty, its internal convenience does not correspond with its external appearance. Its population has sunk to about 7000. Its dirty streets are chiefly filled with splendid churches, beggars, and decayed mansions. Its cathedral is scarcely to be excelled in grandeur. Its great elevation, admirable lightness, and correct proportions, cause it to be considered as one of the most perfect specimens of Gothic architecture. The Spaniards say that the cathedral of Seville is large, that of Toledo rich, that of Compostella spacious, but that of Leon excels them all.

SALAMANCA has long been distinguished as the chief seat of Spanish learning and literature. It is about thirty-four leagues north-west of Madrid, and rises in the form of an amphitheatre, on the banks of the Tormes, which waters the beautiful plain beneath. A handsome stone bridge, of about 500 feet long, and supposed to be of Roman architecture, crosses the river. The celebrated university of Salamanca was established in the 13th century, and rose into such repute as to contain 15,000 students at one time, from all parts of Europe. It is the most ancient university in Spain, and was founded by Alphonso IX., but more richly endowed by Alphonso X., surnamed the sage, who also drew up a code of laws for its government. It has sixty-one professors, whose lectures embrace theology, law, science, medicine, political economy, and languages; but though the establishment continues undiminished, the schools are almost deserted, and the students seldom exceed one thousand. The library belonging to the university consists of 20,000 volumes, but contains very few modern works.

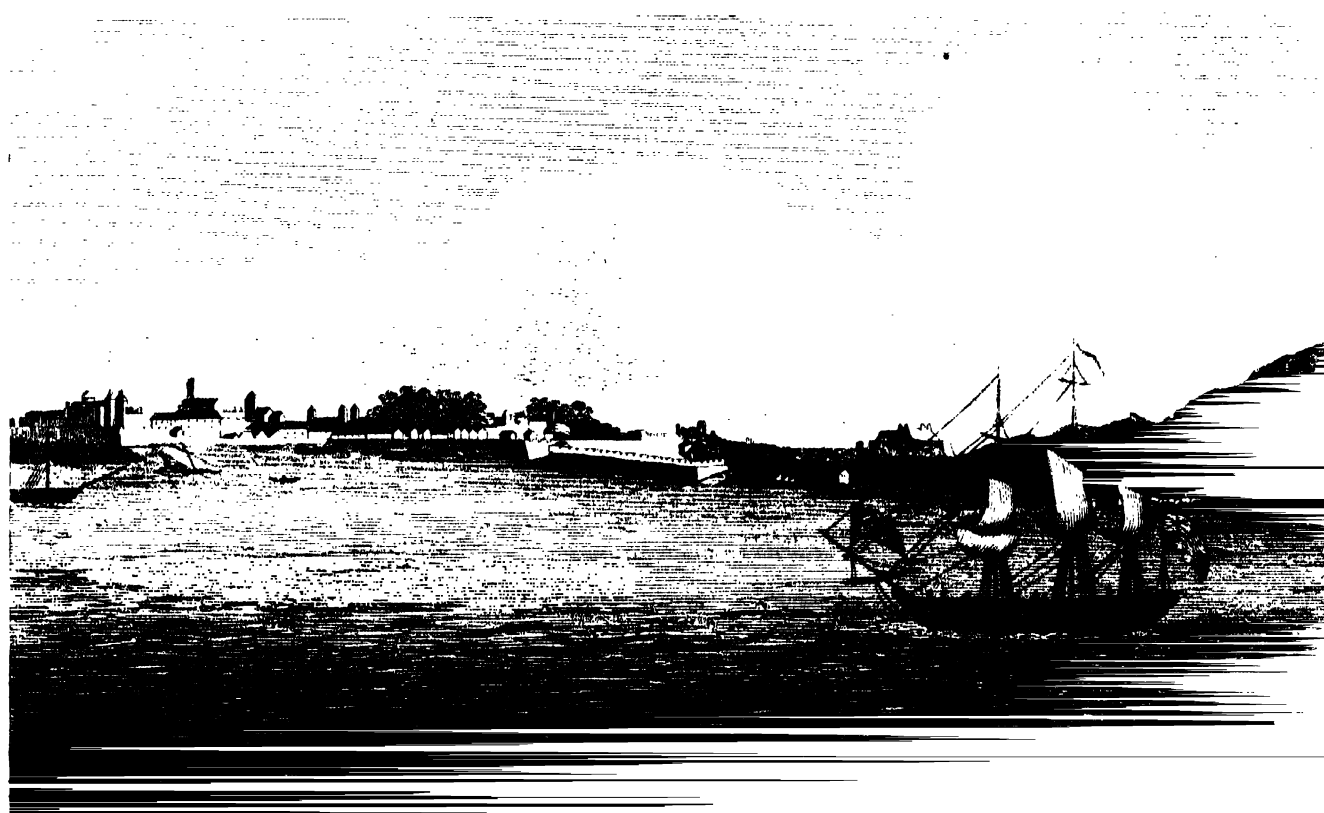
COMPOSTELLA, or *St. Jago*, is the capital of Galicia, the see of an archbishop, and the principal residence of the celebrated order of the knights of St. James. It stands on a hill amidst pleasant environs, and has some good squares and streets. The university was established in 1522. The cathedral is a massy Gothic structure, extremely rich in its internal decorations, which are shown to great advantage by more than a thousand wax candles which are lighted every night. The population is about 12,000; a part of whom are engaged in manufactures of hats, stockings, paper, and leather.—Such a uniformity pervades the other Spanish cities of the interior as to render it unnecessary to describe them.

It is the sea-ports of Spain that have chiefly been benefited by the influx of foreign treasures, and the exertion of national industry. They are also of the utmost importance to the welfare of a country possessing such a vast extent of coast, and so favourably situated for the prosecution of commerce.

CADIZ, which is the grand emporium of southern Spain, stands on the north-west part of an island on the south coast of Andalusia, in a spacious bay that forms a noble sweep before the Atlantic approaches the entrance to the Mediterranean. This island is separated from the main-land by a very narrow strait, over which a bridge is thrown that unites it with the opposite shore. The city forms nearly



View of Cadiz



View of Cartagena

a square, and is defended by ramparts, regular bastions, and various out works, on the land side. Its extent is about a mile and a half each way. Many of the streets are narrow, the houses high, and their roofs projecting; which is apparently designed to afford a cooling shade during the heats of summer. The handsomest square is that of St. Antonia; but there are few public buildings that deserve description. The principal are the churches, custom-house, and the great hospital.

The manufactures of Cadiz are insignificant, but its commercial industry and mercantile transactions are extensive. It is the chief emporium of the commerce of Spain with her American colonies, and was, for a long period, the only port where these lucrative transactions could legally be carried on, for which it was made the grand depôt in 1720. It also trades with almost every part of Europe, and numerous foreign merchants reside within its walls; particularly French, English, Irish, Dutch, and Italian. The average quantity of gold and silver brought from America is about $5\frac{1}{2}$ millions, and the number of vessels that entered the port from that quarter before the interruption of its commerce, was 176; while the total number from all parts was 1010. The imports consist of manufactured articles from the other countries of Europe, which, with the fruits of the Spanish soil and industry, are transmitted to the New World, in exchange for the productions of that hemisphere. It is the chief port for the Spanish navy; and it was from its harbour that admiral Villeneuve sailed before the battle of Trafalgar, so fatal to the combined fleets of France and Spain. Cadiz is considered as one of the most ancient places in Europe; and is said to have been founded by the Phœnicians, about eighty years after the fall of Troy. It was afterwards a Roman town; and though the population is subject to considerable fluctuation, it generally contains about seventy thousand people.

BARCELONA is the second city in Spain, in population, and one of the first for its extent, industry, commerce, and opulence. It was founded by the Carthaginians, who named it *Barcino*, after their general Annibal Barcino; and it passed successively under the dominion of the Romans, the Goths, the Moors, and the French. It had afterwards sovereigns of its own in the Counts of Barcelona, till it was annexed to the kingdom of Arragon, and subsequently to the Spanish monarchy. Barcelona is strongly fortified, and, with the contiguous town of Barcelonetta, has a population of about 110,000. The Barcelonians have academies for jurisprudence, natural philosophy, medicine, history, and the fine arts; and some of the churches, the convents, and the exchange, deserve the attention of the lover of the arts for their chaste decorations.

Barcelona is the centre of the commerce of Catalonia, which is the most industrious province in Spain; and its situation on the shore of the Mediterranean is favourable to its intercourse with all the ports of that sea. The amount of its trade has been estimated at £1,700,000, and the number of vessels which entered the port in 1803 was 1333, nine hundred and twenty-seven of which were Spanish, and the remainder belonged to other nations. But the industry of this flourishing city is not confined to mercantile transactions; several manufactures are likewise carried on. Among these are silk, woollens, and cottons, hats, lace, stockings, and soap, with articles of brass and steel, muskets, pistols, swords, and other small arms, which are not only made for the army at home, but exported to Italy and America. Glass is likewise manufactured at Barcelona; and the annual value of the cotton goods alone, has been stated at £242,000 sterling.

VALENCIA is the capital of one of the most productive and populous kingdoms of Spain, and a place distinguished for its manufacturing industry and commercial enterprise. It is delightfully situated on an extensive plain, about a league from the sea, with which it is connected by the Guadalaviar, which washes

its walls. The approach to Valencia is extremely prepossessing, and the pleasing expectations excited by its first appearance are not disappointed on entering the gates. M. *De Laborde* observes, "The traveller is struck with the succession of handsome houses, and surprised at the majestic masses of noble edifices. The number of the shops, elegantly decorated, gives him an idea of the luxury prevailing here; the crowd of inhabitants announces a considerable population; he finds every thing in motion; he every where perceives the marks of opulence; he sees that all is lively, smiling, and agreeable, that it corresponds with the beauty of the country; and this mine of gratification makes an impression on him, which he never before experienced in any other town of Spain. There are more monuments of fine arts in Valencia than in any other Spanish town, more beautiful buildings, more variegated usages, and different customs, more beauties collected in one view, and more difference in manners from the rest of the kingdom." Among the public buildings, the numerous churches are very prominent, some of which abound with choice works of sculpture and painting. The events that have befallen this fine city are plainly indicated by the vicissitudes which the archiepiscopal church has experienced. This edifice, or at least the church that stood on the same site, was a temple of Diana under the Romans, a temple consecrated to Christ under the Goths, a mosque twice dedicated to the worship of Islam by the Saracens, and twice converted into a Catholic church by the Spaniards.

Valencia is also famed for the extent and variety of its manufactures. Silk alone is stated to occupy about 25,000 persons. Leather, stuffs of various kinds, lace with gold and silver with fringes, and several metal articles, are made. Its commerce is inferior to that of Barcelona, and is chiefly confined to exporting the vegetable and mineral riches of the kingdom. It has no harbour, and the vessels load and unload at a distance from the town. The population is about 70,000, among whom priests, monks, and nuns, are numerous. The number of secular clergy alone M. *De Laborde* states at 2610; but he considers the whole population as amounting to 80,000.—The arts and sciences have long been cultivated in Valencia, and its university is undoubtedly the first in Spain in modern celebrity.

CARTHAGENA is another flourishing port on the southern coast of Murcia. It is said to have been built by Asdrubal, the Carthaginian general; and being intended as a rival to the parent city, it was called New Carthage. By the Romans it was denominated *Carthago Spartaria*, and sometimes *Carthago Nova*, and is now the best harbour, and one of the principal ports, on the Mediterranean. This harbour consists of a spacious basin reaching close to the town, and secured from every wind by the surrounding mountains. Some manufactures are carried on at Carthagena, which also participates in the general commerce of the country, and supports a population of 25,000 individuals.

On approaching the straits of Gibraltar, MALAGA presents itself on the southern shore of Granada. It is a large city, situated at the bottom of a deep bay, having the sea on the south, a fertile plain on the west, and lofty mountains on the north-east. Its harbour is sufficiently capacious to contain four or five hundred large vessels. The trade with England, Holland, and Italy, is extensive. Its chief imports are broad-cloths, hardware, spices, cutlery, and laces, for which it returns wine, fruits, anchovies, and oil. Wine and raisins are also exported. The yearly value of its imports has been stated at about £280,000, and that of its exports at £515,000. Its population is about 50,000.

On the north-west of Galicia are CORUNNA and FERROL. The former of these is noted for its spacious and safe harbour, in the form of a crescent, each side of which is defended by a castle. The fort of St. Anthony stands on an insular rock, which commands the harbour, and a part of the road; and such is its strength, that it is also used as a state prison. The heights above the town are crowned by a light-

house, which is seen at a great distance at sea. The town stands partly on the side of a hill, and is defended by a citadel. Its commerce has increased since the opening of the trade to America; and it is now the principal channel of communication between Spain and her trans-atlantic colonies. Packets sail monthly from Corunna to Havannah and New Spain, and every alternate month to Buenos Ayres, Chili, Peru, and the Philippines. The intercourse of Spain with England is also carried on by packets, which sail between Corunna and Falmouth.—It was at this point of Spain that the brave General, Sir John Moore, was killed in an engagement with the French, on the 16th of January, 1809. The population is about 4000, exclusively of sailors.

FERROL may be considered as the Portsmouth of Spain. Unlike most other towns of that kingdom, it has lately risen into consequence; for it was merely a village when the minister of Ferdinand VI., in 1752, perceived the advantages of its situation, and determined to establish a dock-yard, an arsenal, and suitable manufactures for the support of the royal navy. It is situated at the confluence of the river *Juvia* with the bay of Corunna, and its harbour is perhaps unrivalled for extent, depth, and safety, by any other in Europe. Vessels, however, cannot easily clear out of it with every wind. On approaching it, they advance singly up a narrow channel, defended by forts. Ferrol is also distant from any point of debarkation, and strongly fortified on the land side. Docks, store-houses, barracks, and other naval establishments are all on a suitable scale. The marine barracks are extensive and handsome, accommodating 6000 men. There is also an academy for *Guardas Marinas*, a mathematical school for marine artillery, and an establishment for the instruction of pilots. The population in time of peace is about 10,000, but in war much greater.

No port of consequence is found on the northern shore except ST. SEBASTIAN, near the south-eastern extremity of the bay of Biscay. It stands on a peninsula formed by two arms of the sea, and carries on a good trade. It contains about 12,000 inhabitants, and is well known for the recent display of British valour, prior to the entrance of the victorious Wellington, into the south of France, in the autumn of 1813.

CHAPTER IV.

Manufactures—Fisheries and Commerce.

IN former periods of its history, Spain was classed, in reference to its MANUFACTURES, with the first nations of Europe ; but now it must be included with the last. About the middle of the 15th century, the manufactures of Spain were so flourishing that numerous foreign articles were prohibited. No other European country possesses such stores of excellent wool ; but comparatively little of it is used in manufactures. Woollens, however, of various kinds are made ; but in these, which ought to be the staple commodity of the country, Spain is inferior to both England and France. The best cloths are made at Guadalaxara, Segovia, Brihuega, and Terrassa ; though even there the finishing and dyeing are still imperfect.

Silk is the most extensive and important of the Spanish manufactures. Blond laces, silk stockings, ribbands, satins, damasks, and plain and flowered velvets, are made at Granada, Murcia, Valencia, and other places. In Valencia alone there is about 5000 looms, and three hundred stocking frames, which employ more than 20,000 people. Silk handkerchiefs, with white, coloured, plain, and figured gauzes, are made at Barcelona and other places. Gold and silver edgings, lace, and fringe, are also manufactured at Toledo, Barcelona, Valencia, and Talavera de Ja Reyna, but not in quantities sufficient for the home demand.

Linen is made in several parts, but it is generally of a coarse kind for the immediate consumption of its neighbourhood. The best is made in Galicia. Sail-cloth, cordage, and cables, are made in the three naval ports of Ferrol, Carthagena, and Cadiz, as well as at some other places.

Ropes and cables are made at Carthagena, of the *esparto*, a species of grass that grows abundantly in the south of Spain. It is both spun like hemp and platted. The cables composed of the *esparto* are light, and by swimming on the surface of the water, are less liable to be damaged than those made of hemp.

The machines for spinning cotton were first introduced in 1790, and have since been improved and much used. Plain and printed calicoes are now made in various parts, with stockings, leather, paper, and porcelain. A curious kind of painted tiles are manufactured in the neighbourhood of Valencia, with which the floors of the best apartments in that city are laid. Iron, copper, and brass works are chiefly confined to the northern provinces. Biscay in particular is famed for its iron and steel, the preparation of which employs a great number of people. Glass, arms, and ammunition, pins, hats, potash, barilla, soap, tobacco, brandy, saltpetre, and some other articles, may likewise be classed among the Spanish manufactures. In Arragon, Catalonia, and Valencia, the distilleries are the most numerous. The quantity of spirits annually made in Catalonia has been stated at 35,000 hogsheads ; and that in the kingdom of Valencia at more than three times that number. The only manufacture of tobacco in Spain is the royal establishment at Seville. The royal monopoly also includes several other articles which is a great check to the national industry.

The Spanish FISHERIES are unimportant in a national point of view. The chief of them is that of anchovies, in the Mediterranean, which supplies an article of export.

The imperfect communication between one part of Spain and another is an insuperable barrier to an extended internal COMMERCE. So difficult indeed is the transmission of heavy articles, that when there is a partial failure of the harvest, some of the provinces experience an absolute scarcity of provisions, while abundance reigns in others. Their wants, are more easily supplied from foreign sources, than by the distant parts of their own kingdom. Spain is more or less engaged in commercial transactions with all other nations of Europe, but most extensively with England, France, Holland, Italy, and her own American colonies. Her exports consist chiefly of native products, either in a raw state, or merely prepared for being transported from one place to another. Some of these are returned after having been manufactured in other countries. Wine and brandy are exported by the provinces on the south and east. Oil principally from Arragon, Catalonia, Andalusia, and Granada. Its annual value has been estimated at £200,000. Soda and barilla are prominent articles in Spanish commerce. These are supplied in the greatest quantities by the kingdoms of Murcia and Valencia; the latter province alone exports about 100,000 quintals of barilla annually. Wool, however, must be considered as the staple export of the Spanish part of the peninsula. The whole quantity exceeds 10,000 tons, which principally go to Holland, France, and England. Most of this wool is from the two Castiles. The northern provinces export nuts, chesnuts, cork, and iron. Saltpetre, quicksilver, and leather, are also included in the exports. Spain likewise serves as a channel through which the treasures of her trans-atlantic possessions flow to other countries. The chief articles she receives from them are gold, silver, cochineal, and indigo, from Mexico and New Spain; sugar, coffee, ginger, tobacco, and other articles from the West Indies; mahogany and other kinds of wood, with cotton, cocoa, gold, silver, pearls, Peruvian bark, and hides from South America; tea, rice, silks, cottons, and various Chinese and Siamese articles from the Philippine islands, with wine from the Canaries.—Holland supplies her with linen-drapery, lace, cutlery, and paper. Hamburg, with linen and haberdashery; England with calicoes, hardware, broad-cloths, and salt-fish; and France with linen-drapery, silks, camblets and other worsted stuffs, fine-cloths, hardware, jewellery, haberdashery, and perfumery.—The balance of trade with the other European powers is greatly against Spain.

CHAPTER V.

Government and Constitution—Laws and Jurisprudence—Army—Navy—Revenue—Political Importance and Relations.

THE GOVERNMENT of Spain has long been an absolute monarchy ; but the recent revolution which has taken place in that country seems to have changed its character and given it a representative, and limited form. But to describe its CONSTITUTION in its present unsettled state, would probably be useless, for before the description issued from the press, that constitution may possibly be subverted. We shall therefore reserve this and similar points as supplementary articles at the termination of the work.

The LAWS of Spain have varied greatly with the people who have successively been masters of the country. These were also very different in different states and provinces of the kingdom ; but they have now been brought to a considerable degree of uniformity in what is denominated the *Code of Castile*. This was drawn up at the command of Ferdinand and Isabella, and published in 1505, after having engaged the attention of those to whom it was entrusted for twenty-five years. These laws are compounded of the Gothic, Roman, and Canon law ; but the Roman law alone has no validity in Spain. A collection of edicts of the Spanish kings is entitled to great authority.

The general character of the judicial administration is that of parental kindness. A multiplicity of courts are established, and a long series of appeals ordained, that each case may be finally brought to an equitable termination. But this sacrifices the advantages of a prompt issue, and renders the law complicated and expensive. The number of lawyers and others connected with the administration of justice in Spain is very great, and according to *Tayjoo*, (a Spanish writer of high authority) they amount to 100,000, which is nearly a hundredth part of the whole population. One class of these seems to be peculiar to Spain. These are *Escribanos*, or writers, who exercise the functions of secretary, solicitor, notifier, and registrar, and are the sole communication between the client and the judge. All the documents relative to both sides of the case are put into the hands of the writer chosen by the plaintiff, who entrusts them for a certain period, to the attornies concerned for the instruction of the advocates, but no copy is allowed. The writer also registers the decrees or sentences of judges on the case, and notifies them to the parties concerned by reading the proper instrument, but no copy is allowed to be taken. Such a peculiar process, accompanied with such a combination of functions in the same person, is an obvious prelude to delay and vexation.

The late contest in which Spain was so deeply engaged, raised her ARMY much beyond its usual standard ; but previously to that period the number of troops in time of peace was usually about 60,000, with nearly half that number of provincial militia, which were always in readiness. In 1798, M. *De Laborde* states the numbers at 74,163, and 35,816, which gives a total of 109,973 men. In 1807, however, they had been diminished, for the army was then stated to consist of 46,704 infantry, and 6000 cavalry ; making the total number of troops of the line 52,704. The provincial militia was at the same 21,840 ; which, with the artillery and engineers, gave a total of 81,944. The exigencies of later times, caused this number to be greatly

augmented, and according to the statements submitted to the public, the Spanish army amounted to 150,000 effective men ; but they have now been reduced to ninety or a hundred thousand. The capacity of the nation to provide for this armament, was also increased by the almost total destruction of its Navy by the invincible power of the British fleets in the late war between the two countries ; and in this state it has continued ever since, so that the government has lately purchased ships of war from Russia, to convey the intended armaments to her trans-atlantic colonies.

It is at all times difficult to ascertain the REVENUE possessed by an absolute government. Under the existing deficiency of authentic documents, all that can be expected is a tolerable approximation to the truth. It is now about six millions and a half, which arises from several sources, as land revenues, rights of chancery, taxes on the clergy, and other taxes of various kinds, some of which are general, while others are confined to particular provinces only. *M. De Laborde*, before the late war, stated the revenue at eight millions sterling, and the clear income of the colonies was about one million and a half, which made the total £9,500,000.

The NATIONAL DEBT of Spain has been accumulating for several years, and is about £125,000,000.

The contrast between the natural resources, and the political imbecility of Spain, is peculiarly striking, and Europe may be sought from one extremity to the other, without affording a similar example. With territorial possessions nearly equal to those of France, it contains little more than one-third of the population of that kingdom, though favoured with a fertile soil and a delicious climate, capable of yielding in abundance the productions both of the temperate and warmer regions of the globe. Famed from the earliest periods for its mineral treasures, it still possesses all that is essential to the arts of life. Nearly encompassed by the sea, Spain has a greater extent of coast than almost any other state of Europe, and a position the most favourable for immediate intercourse with all parts of the globe ; yet her commerce is little known beyond the precincts of her own possessions, and most of her productions are exported in foreign vessels. In addition to this her colonies were lately about thirty times as extensive as the parent state, and yielded all that is most valuable in both the vegetable and mineral kingdoms. Yet with all these natural advantages, Spain can only be placed in the second class of European states ; for though she may not be directly controuled in her political measures by any of the stronger powers, she has too little influence in the political assemblies of Europe to merit any higher associates than Sweden, Turkey, and the Netherlands.

In reference to the POLITICAL RELATIONS and interests of Spain, the late events of her history supply obvious facts. The enmity of France she has reason to deprecate, her friendship she has found unavailing. Britain she has tried in both relations, in the one she has found her terrible, in the other firm, faithful, and invincible. With possessions so diffused, and so distant, the greatest enemy that Spain can have is the British Navy, while in this too her greatest safeguard may be found.

CHAPTER VI.

Religion and Ecclesiastical Geography—Education—Language and Literature—Arts and Sciences—Manners and Customs.

THE Religion of Spain is the Roman Catholic, which was long accompanied by a degree of intolerant bigotry, sufficient to maintain the horrors of the inquisition, whose dark shades spread like a shroud over the country, and infused a death-like principle into the best energies of man. But this degrading relic of religious barbarity has happily been abolished, and, let us hope, never more to be revived. The Spaniard embraces the Catholic faith with a sincerity and zeal which even surpass those of the Papal states, yet, in no other country are theoretical piety and practical vice more closely united than in this peninsula. The whole of Spain is divided into eight ecclesiastical provinces, each of which is superintended by an archbishop. They are also sub-divided into dioceses, over which bishops preside. The metropolitans are those of

Toledo	in New Castile
Seville	Andalusia
Granada	Granada
Sant Jago, or Compostella ..	Galicia
Burgos	Old Castile
Tarragona	Catalonia
Saragossa	Aragon
Valencia	The kingdom of Valencia

The number of dioceses is forty-six, which, with five auxiliary bishops, in *partibus infidelium*, make the total fifty-one. The Spanish church is richly endowed; and several of the metropolitans and prelates possess revenues that ill accord with the humble followers of the “meek and lowly Jesus.” The archbishop of Toledo is the first in rank and revenue; possessing, according to *Laborde*, an annual income of £125,000. Mr. *Townsend* states the income of this archbishopric at £90,000; while some have revenues exceeding £30,000 per annum. The clergy and others connected with the ecclesiastical establishment in Spain are numerous. They have been estimated, by Mr. *Townsend*, from returns made to government, as follows, viz.

Parochial clergy, called curas	16,689
Assistants called tenientes curas	5,771
Sacristans, or sextons	10,873
Acolitos, to assist at the altar ..	5,503
Ordinados de patrimonio, having patrimony of three reals a day	13,244
Ordinados de menores, with inferior ecclesiastical orders	10,774
Beneficiados, or canons of cathedrals and other beneficiaries	23,692
Monks	61,617
Nuns ..	32,500
Beatas	1,130
Syndics, to collect for mendicants	4,127
Inquisitors	2,705
<hr/>	
188,625	

The Spanish church has its own tribunals, to which alone its members are amenable, either in civil or criminal cases. This jurisdiction is very extensive, embracing, in some instances, the laity as well as the clergy.

EDUCATION has by no means been neglected in Spain, though its effects are less evident than in most other countries in Europe. When the order of Jesuits was suppressed, the Spanish government appropriated a part of the funds belonging to that community to the establishment of parochial schools; which, with several academies and universities, afford the means of instruction to a great part of the population. The defect, therefore, is rather in the method of teaching, than in the deficiency of its establishments. The Spanish universities were formerly more numerous than at present; but 17 yet remain, viz.

<i>Universities.</i>	<i>Provinces.</i>
Pampeluna.....	Navarre
Oviedo.....	Asturias
Sant Jago, or Compostella.....	Galicia
Seville.....	Andalusia
Granada.....	Granada
Huesca and Sarragossa.....	Arragon
Avila, Osma, and Valladolid.....	Old Castile
Toledo, Siguenza, and Aleala de Hamarez.....	New Castile
Cervera.....	Catalonia
Orihuela and Valencia.....	Valencia
Salamanca.....	Leon

Salamanca was the most celebrated in ancient times; but Valencia is now the most popular. Lectures are read in these universities on theology, canon and civil law, medicine, and philosophy.

“The conventual schools are also numerous. In all monasteries of any importance, lectures for the purpose of instructing the junior members of the society in theology and philosophy are read; but as these schools are open to the public, the mischievous consequences of the absurd systems there taught, extend beyond the bounds of the monasteries themselves. It is within these cloisters that scholastic theology, and peripatetic philosophy have taken refuge; here, without disturbance, they spin their subtilties, cherish their prejudices, and transmit by uninterrupted succession, the barbarism of the ancient schools, purged of their activity.”—*Laborde*. Several naval and military academies have been established, in which the cadets are instructed in all the various branches of study, connected with their professions.

The manner of communicating knowledge, even in the best institutions of Spain, is very defective. The lectures on chemistry in the university of Valencia were lately merely verbal, as they had neither laboratory nor apparatus belonging to the Institution; and the same deficiency has been ascribed, by M. Laborde, to all the other universities.

The Spanish LANGUAGE is a well-known offspring of the Latin, which, during the Roman domination, was the one in general use throughout the country. But when the Goths became conquerors of Spain, they introduced the *Teutonic* dialect, and numerous Gothic words, expressions, and idioms, were incorporated with the Latin. The Arabs, in their turn, also imposed their language with their conquests; but the Latin still continues to prevail over the Gothic and the Moorish, though modified by them both. The language of Spain is rich and sonorous; abounding in compound words, superlatives, derivatives, augmentatives, diminutives, and numerous synonymes, well adapted to express the different shades of meaning. In scientific terms it is very deficient; and most of those which it does possess are borrowed from the French. Spanish, however, has been classed among the finest languages in Europe. “It is dignified, harmonious, energetic, and expressive, which unite into measured points,

whose cadence is very agreeable to the ear. It is a language well adapted to poetry ; but inclines to exaggeration, and its vehemence easily degenerates into bombast. Though naturally grave it readily admits of pleasantry. In the mouth of well-educated men, it is noble and expressive ; lively and pointed in that of the common people ; sweet, seductive, and persuasive, when spoken by a female. Among the orators it is extremely touching and imposing, though rather diffuse ; at the bar and in the schools it is brilliant, and is spoken by those about the court in a precise and agreeable manner."

While LITERATURE, ARTS, and SCIENCES, have maintained their ground, or advanced towards perfection in most other countries of Europe, during the last two centuries, the Spaniards have descended from their former eminence, and sunk below most other European nations. This cannot be ascribed to a defect in natural genius, or in language ; nor to a want of literary and scientific institutions. It must be attributed, we apprehend, to the superstition and indifference of the great, with whom titles are every thing ; to the want of incitements in the middle classes, to the suppression or improper bias of learning by the clergy, to the restrictions imposed on the liberty of the press, and to the deadening influence of the inquisition.

In the more flourishing period of her literature Spain excelled in history, poetry, and romance, which were truly natural and eminent. In richness of invention, the Spanish theatre has excelled most others ; while the epic poem, the *Aranca* of Ercilla, and the national heroic poem of the *Cid*, have been repeatedly admired. As a romance, the great work of *Cervantes* has enjoyed the admiration of Europe for more than two centuries ; and the more it has been attempted to be imitated, the more it appears to be inimitable. With all its treasures of former ages, Spanish literature presents few works of a modern date that are known beyond the confines of the peninsula, while the narrow prejudices which still influence the Spanish policy, exclude many valuable foreign productions from their libraries.

ARTS and SCIENCES, in Spain, present the same dull aspect as her literature, both being depressed by the same superstitious indifference, while numerous monuments remain to attest the vigour of their former existence. Painting is that which has been most cultivated in Spain, and in which its natives have best succeeded. The Spanish painters hold a middle place between the Italian and Flemish. They are more natural than the one, more noble than the other, and often uniting the beauties of both.

The MANNERS and CUSTOMS of Spain, like those of every other country, have derived their peculiarities from adventitious causes. Spain was successively occupied by different races of men, and they, of course, impressed upon the national character their different shades of thought and action. Its first inhabitants seem to have been the Celts, similar to the Scotch Highlanders. The Carthaginians then settled in most of the country west of the Ebro. A series of conquests rendered the Romans masters of the same regions, and as the Latin forms the basis of the Spanish language, the manners of the Romans must have predominated over those of the previous inhabitants. The Romans subsequently gave place to the Goths, whose barbarous usages were gradually softened by contact with the more refined manners and customs of the vanquished Latins. The Moors or Saracens afterwards became masters of the finest provinces, where many marks of their sway, and traces of their manners, are still visible.

The complexion of the Spaniards is generally swarthy, though varying in different provinces. In some it exhibits an olive cast. M. *De Laborde*, who had great opportunities of observing all ranks of people in this part of the peninsula, has drawn the following picture.

"The general appearance of the Spaniards is usually very good ; the shape

delicate, the head beautiful, the countenance intelligent ; their eyes are quick and animated, their features regular, their teeth even.

“The Castilians appear delicate, but they are strong. The Galicians are large, nervous, robust, and able to endure fatigue. The inhabitants of Estremadura are strong, stout, and well-made, but more swarthy than any other Spaniards. The Andalusians are light, slender, and perfectly well proportioned. The Maricians are gloomy, indolent, and heavy ; their complexion is pale, and often almost lead-coloured. The Valencians are delicate, slight, and effeminate ; but intelligent, and active in labour. The Catalans are nervous, strong, active, intelligent, indefatigable, and above the middle stature. The Arragonese are tall and well-made ; as robust, but less active than the Catalans. The Biscayans are strong, vigorous, agile, and gay ; their complexion is fine, their expression quick, animated, laughing, and open. The Roman historians describe them as brave, robust, endowed with constancy, and a firmness not to be shaken ; fierce in their disposition, singular in their customs ; always armed with daggers, and ready to give themselves death rather than suffer themselves to be subjugated, or governed by force ; roused to opposition by obstacles, and patient of labours and fatigues. In fact, the Calabrians were the Spanish people who longest resisted the arms of the Roman republic.

“The Spanish women here deserve a separate article ; compared with the men, they seem to form a different nation.

“The females of Spain are naturally beautiful, and owe nothing to art. The greater part are brown ; the few that are fair are chiefly to be found in Biscay. They are in general well-proportioned, with a slender and delicate shape, small feet, well-shaped legs, a face of a fine oval, black or rich brown hair, a mouth neither large nor small, but agreeable, red lips ; white and well set teeth, which they do not long preserve, however, owing to the little care they take of them. They have large and open eyes, usually black, or dark hazel, delicate, and regular features, a peculiar suppleness, and a charming natural grace in their motions, with a pleasing and expressive gesture. Their countenances are open and full of truth and intelligence ; their look is gentle, animated, and expressive ; their smile agreeable ; they are naturally pale, but this paleness seems to vanish under the brilliancy and expressive lustre of their eyes. They are full of graces, which appear in their discourse, in their looks, their gestures, in all their motions, and every thing they do. There is a certain simplicity in all they do, which sometimes gives them a rustic, and sometimes a bold air, but the charm of which is inexpressible. As soon as they get a little acquainted with you, and have overcome their first embarrassment, they express themselves with ease ; their discourse is full of choice expressions, at once delicate and noble ; their conversation is lively, easy, and possesses a natural gaiety peculiar to themselves. They seldom read and write, but the little they read they profit by, and the little they write is correct and concise.

“They are of a warm disposition ; their passions are violent, and their imagination ardent, but they are generous, kind, and true, and capable of sincere attachment.

“If the Spanish ladies are agreeable, if they are sometimes well informed, they owe it only to themselves, and in no degree to their education, which is almost totally neglected.”

Few of the higher classes now wear the ancient costume, except on particular occasions, but it is still generally worn by the lower orders, and varies in almost every province. It has thus been vividly sketched from repeated observation.

“The peasants of Arragon wear a waistcoat, and over it a round frock fastened with a leather belt, and a large round hat ; often two one above the other, when they are working in the sun during summer. Those of Catalonia wear a frock or a wrapping

waistcoat without sleeves ; a little short doublet with round broad buttons set very thick, with long tight sleeves, buttoned in the same manner down to the wrist ; a long girdle of blue or red woollen, which goes several times round the waist ; close breeches with neither buttons nor garters, and often of skin ; their legs are either bare or covered sometimes with gaiters of skins fastened with straps ; sometimes with woollen stockings which only come down to the instep ; and shoes made of packthread called *espargatas* in Castile, *espardenyas* in Catalonia, the elegance of which consists in their only covering the ends of the toes. They often wear nothing but the frock or waistcoat, and throw the doublet carelessly over the left shoulder. Their head dress is a silk or thread net of different colours, adorned with a tassel hanging at the end of a long cord, in which the hair is enclosed, and over it a large woollen cap usually red, sometimes of several colours, with a point which hangs down at the ear. The mountaineers of this province, especially those who inhabit the Pyrenees, wear a kind of wide, short, great coat, with broad facings on the sleeves, which they call a *gambeto* ; but this only belongs to the richer of them.

“ In Murcia and Valencia the husbandman wears in summer, a white frock shaped like a wide doublet ; a girdle of red woollen ; breeches often white and very wide, short, and round, having neither strings nor garters ; shoes made either of hempen cord or the fibres of a kind of broom called *espargatas* ; and sometimes a round hat, but more commonly a leathern cap slightly rounded, which is called a *montera*. He has no cloak, but supplies its place with a piece of thick woollen cloth, striped with various colours, about seven feet in length and two in width ; this he usually throws over one shoulder ; but he sometimes suffers it to hang unequally behind and before, and sometimes winds it in various manners round his neck and arms.

“ The dress of the common people in Old Castile consists of a dark-coloured frock strapped round the waist, and a dark *montera*, or cap of woollen or leather.

“ The peasantry of La Mancha wear a round frock of cloth or skin, with a girdle, and a square *montera* pointed at the top, which has a rim to be let down at pleasure. In the towns and villages of Biscay and Guipuzcoa the men are dressed as in Castile ; but in remote parts they preserve their ancient costume—wide and rather long breeches ; a red doublet which wraps over a kind of long wide great coat ; a pointed cap in winter, and often a hat in summer. They wear, particularly in winter, buskins of untanned leather laced with thongs. The cloaks worn by the common people are dark brown ; persons of a rather higher class wear them of various colours : the rich have taffeta ones for summer.

“ The costume of the Spanish women is now much altered. Most of those of the higher class have adopted the French dress, which they wear in their houses—in their carriages—at visits, balls, and public spectacles ; only assuming the Spanish habit when they walk out or go to church. This habit at present consists of a kind of bodice or corset ; a very short petticoat scarcely reaching below the instep ; a mantela on the head which has taken place of the ancient veil, and which conceals or discovers the figure at will ; a chaplet in one hand and a fan in the other. The stays called *cotilla*, were formerly stiff with steel or whalebone, tight round the lower part of the waist, wide at the top, and laced behind. Their appearance is very stiff and ungraceful.

“ The most genteel and elegant women, and those who wish to display a fine shape, have entirely laid them aside, and substituted a simple corset without bones, made variously of silk or muslin, which is called a *cogon*. The *cotilla* is usually covered with black ; the *cogon* is indifferently of any colour, except in full dress, when it too is black. Both have often tight sleeves coming down to the wrist,

where they are fastened with five or six little buttons ; but of late the sleeves have frequently been shortened to the elbow, especially in summer. The petticoat or *basquina*, is always black but of various materials, sometimes very much ornamented with gold and embroidery, and trimmed with coloured ribbands.

“ The *mantela* is a kind of veil, which being placed upon the head reaches down at the sides the length of the arms, and below the girdle behind where it is rounded off. Thus it is worn by women of middling rank ; those of a higher class make it of a straight piece three yards long and an ell wide, and after placing it upon the head and suffering it to fall over the back and arms, they wind the long ends gracefully round the waist cross them in front, and bring them back to one side or behind, where they are tied, and whence they fall down to the heels. These mantelas are always either black or white. The first are of taffeta, gauze, or a light woollen stuff, sometimes trimmed with lace, sometimes entirely made of lace ; the white, which are more elegant, though no longer fashionable, are of muslin plain or sprigged ; of gauze, lawn, crape, or taffeta ; and often trimmed also with black or white lace.

• “ In the two Castiles all women of whatever condition, may wear the *mantela* black or white indifferently ; but in Catalonia the black *mantela* is a mark of distinction which the lower classes dare not assume. In a great part of Andalusia, particularly at Cadiz, scarcely any but black ones are seen ; in other parts both are worn, in some white are most common.

“ The shoes of the Spanish women are a very elegant article of their luxury. They are almost always of silk, and often adorned with embroidery of silk, gold, silver, or tinsel.”

Equal variety prevails in the Manners and Characters of the Spaniards as in their appearance and costume.

“ Some customs, however, and some traits of character run through all the provinces. The national pride is every where the same. The Spaniard has the highest opinion of his nation and himself, which he energetically expresses by his gestures, words, and actions. This opinion is discovered in all ranks of life, and classes of society ; in crimes and in virtues ; amongst the great and the small ; under the rags of poverty as much as in the royal palace.”

In reference to this self-complacent feeling, which is often dignified with the epithet, greatness of soul, Mr. *Semple* observes, “ In what then does it consist : in boasting that the sun never sets on the Spanish dominions ; in informing you that Spain was the seat of learning, civilization, and philosophy, when England, France, and Germany were covered with forests, and partially inhabited by barbarians ; in assuring you that the Spaniards are the most honourable and most noble minded of all nations ; in building stone bridges over rivulets ; joining triumphal arches to mud walls ; in planning the most magnificent schemes for uniting the Douro, the Ebro, and the Tagus ; the Niger and the Nile ; the South Sea and the Carribean ; but never executing them.”

The principal features in the following sketch have been derived from the author abovementioned.

The address of the Spaniards is serious, cold, and sometimes repulsive ; but under this unpromising exterior they conceal a great disposition to oblige, and often grant without having promised. This character belongs especially to the Castilians. Notwithstanding this apparent gravity, the Spaniard has an inward gaiety which discovers itself in the most ordinary conversation, by a succession of sallies, pleasantries, and plays upon words, full of point and vivacity. In this the people of the south excel. Their repartees are prompt, ingenious, and expressive ; their descriptions original ; their irony keen ; and their comparisons just and well applied.

Here pleasantries, full of grace and spirit, are frequently heard among the peasants. Slow in all his operations, even in his loves and his pleasures, the Spaniard deliberates when he should act, and loses by delay what others forfeit by precipitancy. It is a common proverb with them, that "one should never do to-day what may be put off till to-morrow."

An invincible indolence and hatred of labour pervades most parts of the nation, and paralyzes the most beneficial plans. Employment seems to be considered as dishonourable in many parts of Spain, and "thousands, even of the lower and middle classes spend their time in a state of wretched indolence; their utmost exertions, of both mental and bodily powers, extending no further than the confines of mere existence; and the hovel of a Spanish peasant, presents a picture of wretchedness in the extreme." Whole provinces, however, are exceptions to this general vice of idleness. If the two Castiles, Leon, Estremadura, and Murcia, vegetate in torpid indolence on a fruitful soil, Catalonia, Valencia, and Biscay, are vivified by the industry of their inhabitants.

Here we see carriers, muleteers, and drivers of carriages, continually traversing the kingdom from one extremity to the other, and leading a most painful and laborious life. The husbandman of La Mancha, Andalusia, and Valencia, also devotes himself to severe and constant labour in a sultry and relaxing climate. If in some provinces in Spain, the inhabitants pass their lives in the narrow sphere of their native vallies, the Catalonians carry their industry and activity into all parts of Spain, Europe, and America; the Biscayans traverse the seas with equal skill and courage; and the Galicians and Asturians travel many miles from their home, in search of the means of subsistence.

The Spaniards are grave in their carriage, serious in discourse, but gentle, and agreeable in conversation. They are hospitable, noble, and honourable, quick and lively in some parts, but slow and indolent in others.

The Spaniard loves public walks, but not walking. To him they are only places of assembly, where he goes to sit down and take a view of the surrounding objects. He is much attached to his religion, and often superstitious. *Romerois* are very fashionable. They are pilgrimages to celebrated chapels or hermitages, on the eve of the festival of the patron saint. Persons usually pass the night either in the porch of the church or chapel, in the neighbouring fields, or under tents. On these occasions men, women, and cattle, are all huddled together. They eat, drink, laugh, and sing, lie down and sleep; while darkness throws a veil over a scene altogether incompatible with acts of devotion. In connexion with their religious observances, Mr. *Semple* remarks, "There is one custom which pleased me much, and which nowhere produces so striking an effect as on the prado (the public walk in Madrid.) Exactly at sunset the bells of the churches and convents give the signal for repeating the evening prayer to the Virgin. In an instant the busy multitude is hushed and arrested, as if by magic. The carriages stop, the women veil their faces with their fans; the men take off their hats, and all breathe, or are supposed to breathe, a short prayer to the protecting Power which has brought them to the close of another day. After a short, a solemn, and not an unpleasing pause, the men bow and put on their hats, the women uncover their faces, the carriages drive on, and the whole crowd is again in motion as before. This is one of the few Catholic customs which appears to partake of piety without superstition, and divested of altars, candlesticks, tapers, and images. I felt no reluctance to uncover my head among the crowd, under so noble a canopy as the vault of heaven, where some of the stars had already begun to appear." The *Siesta* is common, and smoking çigars universal. They smoke every where; in the streets and public walks, in coffee-houses, at cards,

at balls, in the interior of families, and sometimes before the ladies in parties. Physicians smoke at their consultations, and statesmen at their councils.

With all his characteristic gravity, the Spaniard seldom loses his relish for amusements, and in no country perhaps are these more national. The horrid spectacle of bull-fights, to which all classes, from the peer to the peasant, were so enthusiastically devoted, have been wisely suppressed. The festivals of the church are numerous and celebrated with great pomp by vast multitudes. Fire-works were a subject of great delight, and used to such excess, that the interference of government became necessary. Dances are likewise favorite amusements with the Spaniards, and balls are much frequented in all parts of the kingdom. Besides those common to several other countries, they have three that are completely national. These are the *fandango*, the *bolero*, and the *sequidilla*. The first is the most voluptuous and wanton of European dances; and has been well defined by *Baretti*, who calls it "a regular and harmonious convulsion of *all* parts of the body." The *bolero* is an imitation of the *fandango*, but is less free and marked in its character. The *sequidilla* preserves many of the steps of the other two, but is formed into a ballet. Mr. *Townsend* gives a lively idea of the Spanish passion for these dances by saying, "that if a person were to come suddenly into a church or court of justice, playing the *fandango* or the *bolero*, priests, judges, lawyers, criminals, audience, one and all, grave and gay, young and old, would quit their functions, forget all their distinctions, and commence dancing."

The *Gitanos*, or Gypsies, form a distinct class, and are numerous in all the provinces of Spain, particularly in the south. They are the same erratic and dispersed race as in other countries; though they were admitted to the privileges of Spaniards by an edict of Charles III., who allowed them to bear the honourable appellation of *New Castilians*. Their colour, in the east and south-east, is a shade darker than the swarthy Andalusian; and they are distinguished by the same physiognomy that characterizes them in other regions. They are extremely fond of gay apparel, and the females adorn themselves with artificial flowers, tinsel, and coarse embroidery. Some of the men are engaged in petty traffic; while many of them are provincial actors, and teachers of the *fandango*. When bull-fights formed so great an amusement to all classes, the *Matador*, or person by whom the irritated and wounded animal was finally dispatched, was generally a gypsy. Music, dancing, and fortune-telling, are the chief occupations of the females, and their performance of the *fandango* is wanton in the extreme. Their marriages are attended by indecent ceremonies; and when a death takes place, the relatives and friends surround the body, and recount the adventures of the deceased; while the females cling to the corpse till it is carried out for interment.

CHAPTER VII.

Antiquities and Curiosities of Nature and Art—Islands—Colonies and Settlements.

THE early celebrity of Spain, the successive nations by whom it has been governed, and the vicissitudes it has undergone, have introduced a corresponding diversity into its monuments of *Antiquity*. A few *Tumuli*, and other rude specimens belonging to the earliest epochs, are still visible. The Carthaginian relics are chiefly coins, while those of the Romans are architectural. The Moorish monuments not only belong to a more recent period, but are numerous and splendid. Those raised by the Christians of the middle ages, as in other countries, are churches, castles, and monasteries ; the last of which are spread over Spain with a profusion that strongly marks the fervour of the mistaken zeal that reared them.

The Roman monuments are too numerous to be particularly specified, but the aqueduct at Segovia, in Old Castile, which is supposed to have been erected in the reign of the Emperor Trajan, is one of the most astonishing and best preserved of their works. Few monuments unite so much substantial solidity with so much dignified magnificence as this. It consists of a double row of 159 arches supported by pilasters. Its height exceeds ninety-four feet, and its length is 740 yards. The materials are square masses of rough free stone, without any appearance of cement.

Murviedo, erected on the site of the ancient Seguntum, presents powerful attractions to the zealous antiquary. On tracing the vestiges of its departed grandeur, still visible at this place ; its glory under the Saguntines ; its destruction under the Carthaginians ; its magnificence under the Romans ; and the almost total annihilation of all the monuments of greatness, luxury, and power of these nations, by the desolating fury of the Arab conquerors, excite a train of impressive feelings. Saguntum had its circus, the walls of which may still be distinguished ; but the remains of the theatre are the most perfect. The semicircle where the spectators sat, the doors by which the magistrates entered, the seats of the judges, with other parts, are still to be seen ; and a person with the title of governor was some time ago appointed to preserve from approaching destruction, the place which was once filled with the masters of the world.—Various other specimens of Roman grandeur are met with at Tarragona and other places.

Among the chief relics of Moorish magnificence now remaining are the mosque at Cordova, and the ancient palace at Granada. The former is usually ascribed to Abdoulraham, the first Caliph. It has long been converted into a Spanish cathedral. The roof is amazingly bold and lofty, and supported by 365 columns of different marbles ; the whole number employed in the building was 8000. Its extent may be conceived from its containing 360 altars. The interior is richly decorated.

As the Moorish kingdom of Granada was not subjugated till the Arts and Sciences had been liberally protected, and cultivated with great success, the expectations of the antiquary fix on these parts as a source of high gratification ; and in the *Alhambra*, or ancient palace, they will not be disappointed. It was a truly magnificent structure, each department of which was inscribed with Arabic characters, expressive of the use for which it was designed. The drawings of Mr. *Swinburne* give a good idea of these remains at the time he visited them, and they have since been minutely described by other travellers.

Spain being a mountainous country contains many caverns, lakes, and other NATURAL CURIOSITIES. The following sketch of them is derived from *Bourgoing, Townsend, Laborde*, and other authentic sources. In Catalonia two insulated and conical mountains, standing near each other, exhibit numerous indications of volcanic origin, and are perhaps the only traces of volcanoes to be met with in Spain. *Mont Serrat*, about twenty-five miles north-west of Barcelona, is one of the most singular and pleasant in Europe. It is composed of calcareous stone and gravel, and rises abruptly in the midst of a wide plain. At a distance it appears to be one vast conical mountain, but on a nearer approach it is found to consist of an assemblage of distinct cones, rising above each other to the summit, which is 3300 feet above the level of the sea. Time, however, has abraded the finer particles from their steep sides, which, lodging between the peaks, form beds for evergreens. These are watered by the rills that trickle from the summits, and afford fine contrasts with the naked rocks that tower above them. Here, too, a number of hermitages have been constructed amidst groves, perfumed with myriads of aromatic plants, while numerous gardens supply abundance of the choicest fruits, where the benevolent inmates divide their time between the duties of devotion and acts of charity. In a convent of Benedictines, the indigent are gratuitously entertained for three days; and in a hospital, the sick of every description are freely received. The whole circumference of this mountain is about sixteen miles, and its summit commands an extensive prospect of the surrounding country, and the adjacent sea to the shores of the Balearic isles.

On the northern verge of Catalonia, three mountainous branches project from the Pyrenees, and are composed entirely of rock-salt. One near the town of Cardona is formed of white crystalized salt, of which many small transparent articles are made, and sold at Barcelona.

The calcareous mountains contain numerous caverns. One near Alicant is very spacious. The mountain is partially composed of white alabaster, and the filtrating water has encrusted the roof and sides with many beautiful stalactites. Another opens on the coast at Cape Gata, and is said to contain precious stones. Several singular caves are found in the mountains of Cuença in Castile. One of them is large, and divided into numerous galleries, celebrated for incrustations that present many striking resemblances of animated beings. It contains fountains that ebb and flow several times a day, with others that rise and fall with the tides of the sea, though situated many leagues from its shores, and much above its surface. There are springs, also, some of which are dry in wet weather, but pour out copious streams in seasons of drought; while others change their temperature greatly without any apparent cause. A branch of the Guadiana sinks under ground, and after having pursued its invisible course for about five leagues, again emerges from its subterranean channel, and joins the other branch of that river. In some places sea-shells are found imbedded in the soil at a great elevation above the level of the sea. Between Malaga and Antiquera the country presents some of the most singular rocky scenery in Europe; an immense assemblage of rocks, arranged in the most picturesque and romantic manner, among which the imagination easily traces the figures of churches, towers, houses, streets, and squares, men and animals.

The principal European ISLANDS belonging to Spain are *Majorca, Minorca*, and their dependencies. These are situated in the Mediterranean, and are called the *Balearic isles*, from their ancient inhabitants being celebrated for their management of the sling. *Iviça* and *Formentera*, south-west of the others, are called the *Pityuse Islands*; a name conferred by the Greeks, from their abounding in pines. These were the *Iberian Isles* of the ancients, and stretch nearly from north-east to south-west, from thirty-five to fifty leagues from the coast of Spain. They cou-

stitute the present kingdom of Majorca, which once formed a separate monarchy, but has long been annexed to the crown of Spain.

MAJORCA is about forty leagues from the coast, and is the largest of these islands. It has Minorca on the north-east, and Iviça on the opposite side. Its shape is irregular, about 50 miles long and 40 broad, with a surface of 1750 square miles, and a population of 140,700 individuals, or eighty to each square mile. A chain of mountains almost encompasses this island, and a branch extends to the interior. The heats of summer are tempered by refreshing breezes from the sea, which renders its climate mild at all seasons.

There are several large brooks that descend from the mountains ; but only two small rivers, especially the *Reira*, which washes the ramparts of the capital. The soil is fertile, and yields corn, olives, almonds, and choice wines. The groves of olive-trees rival those of Portugal and Malta. Palms and Indian plantains grow in perfection. The mountainous parts are covered with woods of several kinds of firs, with holm and oaks of great size. It yields all the necessities of life in abundance, and much fine wool and excellent silk are produced.

Majorca contains the cities of *Palma* and *Alcadia*, with several small towns and villages. Palma is the capital of the island, the see of a bishop, and the residence of the Captain General of the Balearic and Pityuse islands. It stands on a bay on the north-west coast, and has a safe harbour. Occupying an acclivity it is seen with advantage from the sea. It is encompassed by walls, and contains some good buildings, with a population of 20,000. The cathedral stands in the highest part of the town, and is a handsome Gothic structure. The mansion-house attracts attention ; and the royal palace is a large building. Palma also contains several hospitals and a theatre.

The ancient city of *Alcadia* stands on the east side of the island, and covers a mountain about two miles from the shore, and is enclosed by old walls of great height. Its unfavourable situation has caused it to decline, and its population does not exceed 1000 individuals.

The *Manners, Customs, Language, Dress, and Character* of the Majorcans, resemble those of the Catalonians. They are active and industrious both as soldiers and sailors. The costume differs little from that used on the eastern coast of Spain. The Manners of the Majorcans are prepossessing, and the females are naturally elegant.

MINORCA is situated on the north-east of Majorca, from which it is distant about ten leagues, and nearly 50 from the mouth of the Ebro. Its length exceeds thirty miles, but its medial breadth is only about 12. The surface is 320 square miles ; and the population, being estimated at 31,000, gives about 97 individuals to each square mile. Minorca is low, and its soil dry, but the air is moist and the climate less agreeable than that of Majorca. Wheat, barley, and maize, are the chief grain. Wine is made, and the olive and other southern fruits grow spontaneously. The caper bush yields its fruit in abundance ; but the inhabitants gather only what is necessary for their own consumption. Fish is plentiful at all seasons, and shoals of anchovies frequent the coasts and bays. Birds abound, and bees are so numerous that honey and wax are among the principal exports. The wool is also fine. *Ciudadella* is the capital. It is a very ancient place, and a part of the walls that were built by the Moors is still standing. The cathedral is a spacious edifice, and there are some good churches and monasteries. *Port Mahon* is situated on an assemblage of rocks at the south-east extremity of the island, and is supposed to have been built by a Carthaginian general of that name. The harbour to which the name of Port Mahon is more properly applied, is one of the finest in the Mediterranean, and sufficiently extensive for a large fleet to anchor with convenience.

The inhabitants resemble those of Majorca. They lead a peaceful life, and hear of the pleasures of other countries with a smile, as they value none but their own. They are much attached to religious ceremonies, and join its processions with great ardour. The females are fond of dress; and wear numerous necklaces, earrings, bracelets, rings, and chaplets.

Several small islands surround Majorca, and are dependent on it. They are included under the general name of the Balearic isles.

The principal island of the Pityuse group is IVIÇA, nearer the Spanish coast than either of the other large islands. It is about 20 miles long and 12 broad; containing an extent of nearly 190 square miles, and a population of 15,200 persons, which is eighty to each square mile. The climate of Iviça is extremely mild. The rigours of winter are unknown, and the heats of summer are mitigated by the sea-breezes. It produces corn, wine, oil, fruit, hemp, flax, and other vegetables, with little labour; but the inhabitants cultivate only what is sufficient for their own consumption. Fish, wood, and salt, are the chief articles of export. The capital of the island is Iviça, on the south-east shore, with a good port. It has a cathedral, six churches, a hospital, several monasteries, and a population of about 2700 individuals.

FORMENTERA is the second of the Pityuse islands, and is situated south of Iviça, from which it is divided by a channel nearly a league and a half wide. The greatest extent of this island is about three leagues, but its population does not exceed 200 individuals, most of whom reside in detached houses along the coast. In climate and other circumstances it resembles Iviça, and has lately been made the termination of the meridional arc, which the French and Spaniards have carried from Duukirk to this place. Indolence is the prevailing characteristic of the inhabitants, and notwithstanding the richness of the soil, and the excellence of the climate, they live in complete indigence.

Spain possesses a few forts on the northern coast of Africa, near the strait of Gibraltar, which serve as places of exile for state criminals. The Canary islands in the Atlantic, the Philippines in the East Indies; the Ladrões, &c. in Polynesia; with Cuba and Porto Rico in the West Indies, also belong to Spain. But her principal colonies are her possessions on the trans-atlantic continent, embracing vast regions, in both North and South America. Each of these will be described in the delineations of those parts of the globe to which they geographically belong.

CHAPTER VIII.

*Statistical and Synoptical Tables.**LATITUDES and LONGITUDES of the principal Cities and Towns of SPAIN.*

The Latitudes are all *North*, and the Longitudes nearly all *West*. Those that are *East* are marked with *E*

Names of Places.	Latitudes.			Longitudes.			Names of Places.	Latitudes.			Longitudes.		
	°	'	"	°	'	"		°	'	"	°	'	"
Alcala	37	43	0	3	42	0	Maria	36	40	0	6	0	0
Alcantara	39	40	0	6	43	0	Mataro	41	32	26	2	28	24E
Algeiras	36	9	0	5	32	0	Merida	38	50	0	5	50	0
Alhama	37	0	0	2	46	0	Malina	41	8	0	2	1	0
Alicant	38	35	0	0	24	0	Montilla	37	25	0	4	2	0
Almanza	38	54	0	1	5	0	Montserrat... ..	41	30	0	1	30	0E
Almeria	36	50	0	2	41	0	Morvedro	39	47	0	0	10	0
Antequira	37	6	0	4	47	0	Murcia	37	58	42	1	5	0
Astorga	42	33	0	6	25	0	Nao Cape	38	42	0	0	12	0E
Avila	40	45	0	5	0	0	Orense... .. .	42	19	0	7	36	0
Badajos	38	49	0	6	47	0	Ortega, Cape ..	43	46	40	7	54	0
Balaguer	41	43	0	0	40	0E	Oviedo	43	21	55	5	56	22
Barcelona	41	21	41	2	9	57E	Palma	42	49	57	2	39	28E
Bilboa	43	14	15	2	42	0	Palos, Cape ...	37	35	0	0	50	0
Brihuega	40	40	0	3	10	0	Pampeluna... ..	42	49	57	1	40	53
Burgos	42	20	59	3	42	6	Placencia	42	0	0	4	36	0
Cadiz	36	32	0	6	17	22	Port Mahon ...	39	54	0	4	18	0E
Calahorra	50	57	0	1	51	0	Rosas	42	18	0	3	0	0E
Calatajudo	41	28	0	1	33	0	Salamanca	41	8	0	5	21	30
Carmona	37	27	0	5	30	0	Saragossa	41	53	0	0	28	0
Carthagera... ..	37	35	50	1	0	21	Sebastian, St. ..	43	24	0	1	56	0
Cervera	37	30	0	0	46	0	Segorbe	39	48	0	0	3	0
Ciudadella	40	4	0	3	58	0E	Segovia	41	0	0	3	48	0
Ciudad Real	39	0	0	4	3	0	Seguenza	41	2	0	2	22	0
Compostella	42	52	0	4	30	0	Seville	37	32	0	5	27	30
Cordova	37	52	13	4	45	53	Soria	41	0	0	2	2	0
Corunna	43	23	32	8	20	23	Tarragona	41	5	0	1	13	0
Denia	38	50	0	0	2	0	Toledo... .. .	39	50	0	3	25	30
Escorial	40	35	50	4	7	50	Toro	41	40	0	5	0	0
Estella	42	39	0	2	5	0	Tortosa	40	53	0	0	35	0
Ferrol	43	29	30	8	11	29	Trafalgar	36	11	0	6	1	0
Gibraltar	36	6	42	5	19	4	Truxillo	39	6	0	5	23	0
Granada	37	16	0	3	46	0E	Tuy	41	54	0	8	12	0
Guadalaxara	40	33	0	3	22	15E	Valencia	39	28	45	0	23	15
Huesca	42	0	0	0	15	0	Valladolid	41	50	0	4	25	0
Jaen	37	48	0	3	51	0	Villa Franca ...	41	20	30	1	52	0E
Leon	42	45	0	5	27	0	Vittoria	42	55	15	2	56	0
Lerida	41	29	0	0	25	0E	Xativa... .. .	39	4	0	0	14	0
Lugo	43	0	4	7	34	10	Xeres	36	45	0	6	2	0
MADRID	40	25	7	3	33	8	Xixona	38	36	0	0	40	0
Malaga	36	43	30	4	25	2	Zamora	41	42	0	5	58	0

MONIES, WEIGHTS, MEASURES, AND EXCHANGES.

Various kinds of money are used in the different provinces of Spain. At Madrid, and many other places, accounts are kept in *Reals* of 34 Maravedis Vellon. There are, however, four different kinds of *Reals*, viz. *Vellon*, *New plate*, *Old plate*, and *Mexican plate*. The Real Vellon is the most general money of account. The Real of New plate is double the Real vellon. The Real of Old plate is chiefly used in Foreign exchanges, and is often called the Real of plate; the division and value are, therefore, given below. The Real of Mexican plate is principally employed by Spain in her transactions with her colonies.

MONIES.

Monies of Account.

The several kinds of *Reals*, above mentioned, have the following proportions to each other, viz.

1 Real of new Plate, equal to	2 Reals Vellon
16 Reals of new Plate	17 Reals of old Plate
17 Reals of old Plate	32 Reals Vellon
2 Reals Mexican	5 Reals Vellon
4 Reals Mexican	5 Reals of new Plate
64 Reals Mexican	85 Reals of old Plate.

The Real Vellon, and the Real of old Plate, are thus divided :

	d.
10 Dineros are 1 Maravedi, equal to	0.070312
2 Maravedis ... 1 Ochavo	0.140625
2 Ochavos ... 1 Quarto	0.28125
8¼ Quartos, or 34 Maravedis, 1 Real Vellon	2.390625

	d.
2 Ochavos are 1 Quarto, equal to	0.28125
16 Quartos, or 34 Maravedis ... 1 Real old Plate.....	4½

Exchanges between Spain and other countries are often made in other monies, viz. The Pistole, or *Doubleon de plata*; the Dollar, or *Peso de plata*; and the Ducat, or *Ducado de plata*.

1 Pistole of Exchange equal to	{ 32 Reals old Plate 60 Reals 8 Mar. Vellon
1 Dollar of Exchange ... }	{ 8 Reals old Plate 15 Reals 2 Mar. Vellon
1 Ducat of Exchange ... }	{ 11 Reals 1 Mar. old Plate 20 Reals 25½ Mar. Vellon.

Coins.

A great variety of Coins are current in Spain; the principal of which are the following:

Gold.	Intrinsic Value.
	£. s. d.
The Doubleon of 8 Escudos, or 4 Pistoles, 1801	3 3 10
The Doubleon of 4 Escudos, or 2 Pistoles, 1801	1 11 11
The Doubleon de Oro, or Pistole, 1801 ..	0 15 11½
The Escudo	0 7 11½
The Coronilla, or Veinten de Oro, 1801	0 4 1

Silver.

The Dollar,* or Peso duro	4 3½
The Half Dollar, or Escudo Vellon	2 7½
The Peceta Mexicana	1 0½
The Real of Mexican Plate.....	0 6½

Base Silver.

The Peceta Provincial.....	0 10
The Real of Provincial Plate	0 5
The Real Vellon	0 2½

Copper.

The piece of 2 Quartos	0 10
The Quarto	0 5
The Ochavo	2½

* This is the common Spanish dollar.

COMMON WEIGHTS.

Gold and Silver Weight.

Gold and Silver are weighed by the Castilian Mark, but it is not divided in the same manner for both.

For Gold.

	Eng. Grains.
12 Grains are 1 Tomine, equal to	8.8925
8 Tomines ... 1 Castellano	71.14
50 Castellanos... 1 Mark	3557.

For Silver.

12 Grains are 1 Tomine, equal to	9.26302083.
3 Tomines ... 1 Adarme	27.7890625
2 Adarmes ... 1 Ochavo	55.578125
8 Ochavos ... 1 Ounce ...	444.625
8 Ounces ... 1 Mark	3557.

Commercial Weight.

The Castilian Quintal is the usual commercial weight, and is thus divided :

	Avoir. lbs.
36 Grains are 1 Adarme, equal to	0.0039698
2 Adarmes ... 1 Dracma	0.0079396
8 Dracmas ... 1 Ounce	0.063516
8 Ounces ... 1 Mark	0.50813
2 Marks ... 1 Pound	1.01626
25 Pounds ... 1 Arroba	25.4065
4 Arrobas ... 1 Quintal	101.626

The same weight is used at Cadiz; but at Barcelona and Valencia it is different. At the former place the Quintal is divided into 4 Arrobas of 26lbs. each, and is equal to 92½lbs. avoirdupoise; at the latter the Arroba is 24lbs. *Peso grueso*; and 50lbs. are nearly equal to 59lbs. avoirdupoise.

USUAL MEASURES.

Corn Measure.

The Cahiz is the measure for corn, malt, and other dry goods; its division is,

	Win. Bushels.
12 Celemines are 1 Fanega, equal to	1.6
12 Fanegas ... 1 Cahiz	19.2

The Celemine is, therefore, equal to 0.133 bushels, or little more than half a peck, and is subdivided into half, quarter, &c.

Liquid Measure.

Wine and oil are the two liquids that regulate this measure in Spain. The *Arroba* is the standard, but it is not the same for both, nor is it divided in the same manner.

For Wine.	Eng. Win. Gal.
4 Azumbres are 1 Quartillo, equal to	2½
2 Quartillos ... 1 Arroba	4½
16 Arrobas ... 1 Moyo	68
27 Arrobas ... 1 Pipe	114½
30 Arrobas ... 1 Botta	127½
For Oil.	
25 Quarterones are 1 Quartillo, equal to	0½
4 Quartillos ... 1 Arroba	3½
54½ Arrobas ... 1 Pipe	115
58½ Arrobas ... 1 Botta	128½

Linear Measure.

The unit of the Spanish Linear Measure is the *Burgolese* foot, so called from the standard being kept at the city of Burgos.

	Eng. Inches.
12 Lines are 1 Pulgada, or inch, equal to	0.3 2/3
9 Pulgadas ... 1 Palmo	8½
12 Pulgadas ... 1 Foot	11½
4 Palmos, } ... 1 Vara	33½
or 3 feet }	
2 Varas ... 1 Braga	66½
5000 Varas ... 1 Juridical Legua	4635 En.yds.
8000 Varas ... 1 Common Legua	7416

The Geographical League is 20 to a degree.

Superficial Measure.

The *Fanegada* is the measure, or acre, for corn land, and varies in different Provinces; but the *Arranzada*, which is the measure for Vineyards, is the same in all parts of the country.

	English.
1 Square Foot is equal to	1234 Sq. In.
1 Square Vara	7½ Sq. Feet.
16 Square Varas 1 Estadal	12½ ditto
400 Estadals 1 Fanegada	5511 1/8 Sq. Yds.

Or nearly 1.13366 English Acres.

The *Arranzada* is less than this, and is equal to 3 roods, 33 perches, English Statute measure.

EXCHANGES.

Madrid, Cadiz, and the other places in Spain, exchange with, and give,	
Amsterdam 1 Ducat of Exch.	for 98 Grotes Flem.
Genoa ... 126 Dollars of Exch.	... 100 Pezze f. b.
Hamburg 1 Ducat of Exch.	... 90 Grotes Flem.
Leghorn 140 Dollars of Exch.	... 100 Pezze of 8 reals

Lisbon... 1 Pistole of Exch.	...2800 Reis
London ... 1 Dollar of Exch.	... 36 Pence Sterling
Naples... 320 Maravedis of Plate	... 1 Ducat di regno
Paris ... 1 Pistole of Exch.	... 15 Francs
Vienna... 100 Ducats of Exch.	... 260 Florins.

KINGDOM OF PORTUGAL.

CHAPTER I.

Name—Situation—Boundaries—Extent—Population—Original Inhabitants—Progressive Geography—Present Division and Distribution of the Inhabitants—Outlines—General Surface—Mountains—Rivers—Climate and Seasons—Soil—Culture—Products.

THE NAME of this kingdom was derived from a small town near the mouth of the Douro. This was *Calle*, and being on the coast, the appellation of *Porto Calle* was applied, during the middle ages, to the adjacent districts, and thence transferred to the whole country. A slight modification converted this appellation into the present one.

Portugal is SITUATED between Spain and the Atlantic ocean, and stretches from about 37° to 42° 20' of latitude, and from 6° 20' to 9° 40' of west longitude. It is bounded on the north and east by Spain, and on the other sides by the sea. It extends about 360 miles from north to south, and nearly 120 from east to west. *Antillon*, in his *Elementos de la Geografia*, published at Madrid, states the extent at 3437½ square geographical leagues, which is 41,150 English square miles. The population he estimates at 3,683,000 which is nearly ninety persons to each square mile.

The ORIGINAL INHABITANTS of Portugal were doubtless derived from the same sources as those of Spain, and from the contiguity and consequent intercourse of the two countries, they must have undergone the same partial changes. Nor does the PROGRESSIVE GEOGRAPHY present any thing distinct from the sister kingdom, till the year 1050, when the inhabitants wrested part of it from the Moors. From that time their conquests gradually extended from the north till the acquisition of Algarve, about the middle of the 13th century completed the present limits of the kingdom.

Portugal is divided into six provinces, which, with their population, the chief towns, and the number of inhabitants in each, are as follow :

<i>Provinces.</i>	<i>Population.</i>	<i>Chief Towns.</i>	<i>Inhabitants.</i>
Entre Douro-e-Minho	907,965	Braga	13,000
Traz os Montes	318,665	Braganza	3,000
Beira	1,121,595	Coimbra	12,000
Estremadura	826,680	Lisbon	200,000
Alentejo	380,480	Evora	10,000
Algarve	127,615	Tavira	15,000
	<hr/> 3,683,000		

Entre Douro-e-Minho is the most populous of these provinces, and, according to Antillon, has about two hundred and sixty inhabitants to each square mile. Beira is the next in comparative population, and contains about one hundred and twenty-four persons to each mile. Estremadura has nearly eighty-four; Traz os Montes about sixty; while Alentejo has only thirty-six, and Algarve forty-five.

Portugal has but little variety of outline. The separation between it and Spain, is mostly arbitrary, and the coast presents but few inlets of importance. The most noted is formed by the estuary of the Tagus; and another also indents the shore further south, and stretches beyond the town of Setuval. The principal Capes are Cape Roca, west of Lisbon; Cape Espichel, on the opposite side of the Tagus; and Cape St. Vincent, which forms the south-west point of the kingdom. This is the ancient *Sacrum Promontorium*, whose frowning crags, exposed to the fury of the Atlantic, bid defiance to the storm. Though the whole extent of the Portuguese coast is nearly 500 miles, none of the other bays or promontories are of sufficient importance to deserve notice. In point of general aspect, Portugal differs little from the sister kingdom. The same mountains traverse both, while the same rugged scenery, separated by the same vallies, and watered by the same rivers, can only present slight shades of difference. A group of detached mountains occupies a great part of the most northern province, and adds a romantic charm to its scenery. Many picturesque vales separate these chains, but the only extensive plains are one south of the Tagus, and another near the coast in the northern part of the country. As the general inclination of the country is from east to west, the breadth of Portugal is too limited to produce any native RIVER of magnitude. The Minho, the Douro, the Tagus, and the Guadiana, already described, either bathe its confines or intersect its territories before they fall into the Atlantic. But these rivers are all increased by numerous streams which descend from the mountain ranges, between which they roll their augmented floods to the ocean. The only two that can strictly be called Portuguese are the *Mondego*, which passes Coimbra, and enters the sea near the small Cape of the same name; and the *Caldao*, which mingles its waters with the ocean at Setuval. The former rises in the Sierra Estrella, and flowing west through the province of Beira, joins the Atlantic Ocean, at the port of Buarcos. At some seasons it is navigable to a considerable distance from the sea, but at others its waters fail, and its utility in promoting the internal commerce of the country is very limited.

The Mondego has been rendered memorable by the military movements made on its banks by the British and French, in the autumn of 1810, and the spring of 1811. The Caldão descends from the northern flank of the chain of mountains that intersects the southern part of the country. After flowing towards the north, it winds to the west, and meets the bay above-mentioned. Water is so scarce in some parts of Portugal, as to render them almost uninhabitable. Alentejo is the province most deficient in this respect.

Situated in the southern half of the temperate zone, and exposed to the western gales of the Atlantic, the CLIMATE of Portugal is one of the most agreeable and salubrious in Europe. A voyage of a few days transports the inhabitants of more northern latitudes, from regions enveloped in fogs, congealed by frosts, or buried in snow, to clear skies, a balmy air, and a country enjoying all the charms of spring. The mean annual temperature of Lisbon is about 60°, which is one degree less than at the Spanish metropolis. On the mountains in the north, the cold is sometimes severe, but snow seldom falls except on some of these summits. January is the coldest month. February is mild, and during a great part of this month and that of March the sky is clear, the atmosphere serene, and the season delightful. Between the vernal equinox and the summer solstice the weather is

subject to variation, and wind and rain sometimes prevail. The hot season then commences, and though the atmosphere is daily refreshed by the sea-breezes, little rain falls till the end of September, and vegetation soon becomes parched. At this season, when the east wind sweeps over the heated plains of Castile, it renders the heat during the middle of the day oppressive. October is extremely pleasant, but the two succeeding months are rainy. Portugal has more than once been visited by earthquakes; and that which destroyed Lisbon in 1755, was a tremendous visitation.

The SOIL of Portugal differs little from that of Spain, except being in many places lighter. In several of the upland districts it is calcareous and stony; while in the vallies it is frequently rich and productive. Some of the higher tracts are overspread with forests, where the oak, the cork-tree, and several other species, intermix their varied foliage. Chesnuts and sweet acorns also grow in profusion. AGRICULTURE is much neglected, and more reliance appears to be placed upon the climate than upon the efforts of human industry. The Portuguese farmers seem to be unacquainted with nearly all the essentials of productive husbandry. A discrimination of soils, and the rotation of crops, scarcely enter into their system; their implements are also of the most clumsy and defective kind; and the grain is almost universally trodden out by horses and oxen. In the province of Entre Douro-e-Minho, however, the people are more industrious; water is more plentiful, and agriculture is prosecuted with greater success. Many of the higher parts, are so rocky as to be incapable of cultivation, while others are covered with heath, or produce only trees, so that a much less portion of the surface can be cultivated in Portugal than in most other European countries. The VEGETABLE products are similar to those of Spain. The varied elevation of its surface imparts a corresponding variety to the productions. Wheat, barley, oats, flax, hemp, and other crops of more northern climes, are raised in the high grounds; while rice and maize grow in the lower districts. The vine flourishes abundantly, and the hills in many places are covered with vineyards, to their very summits. Oranges, lemons, olives, apricots, and other fruits, are produced in such quantities as to form valuable exports. Its ANIMALS are the same as in other parts of the peninsula, except that less attention has been paid to the improvement of the horses and sheep, and consequently the wool of Portugal is inferior to that of Spain. Asses and mules are best adapted to the country, both for travelling and agriculture.

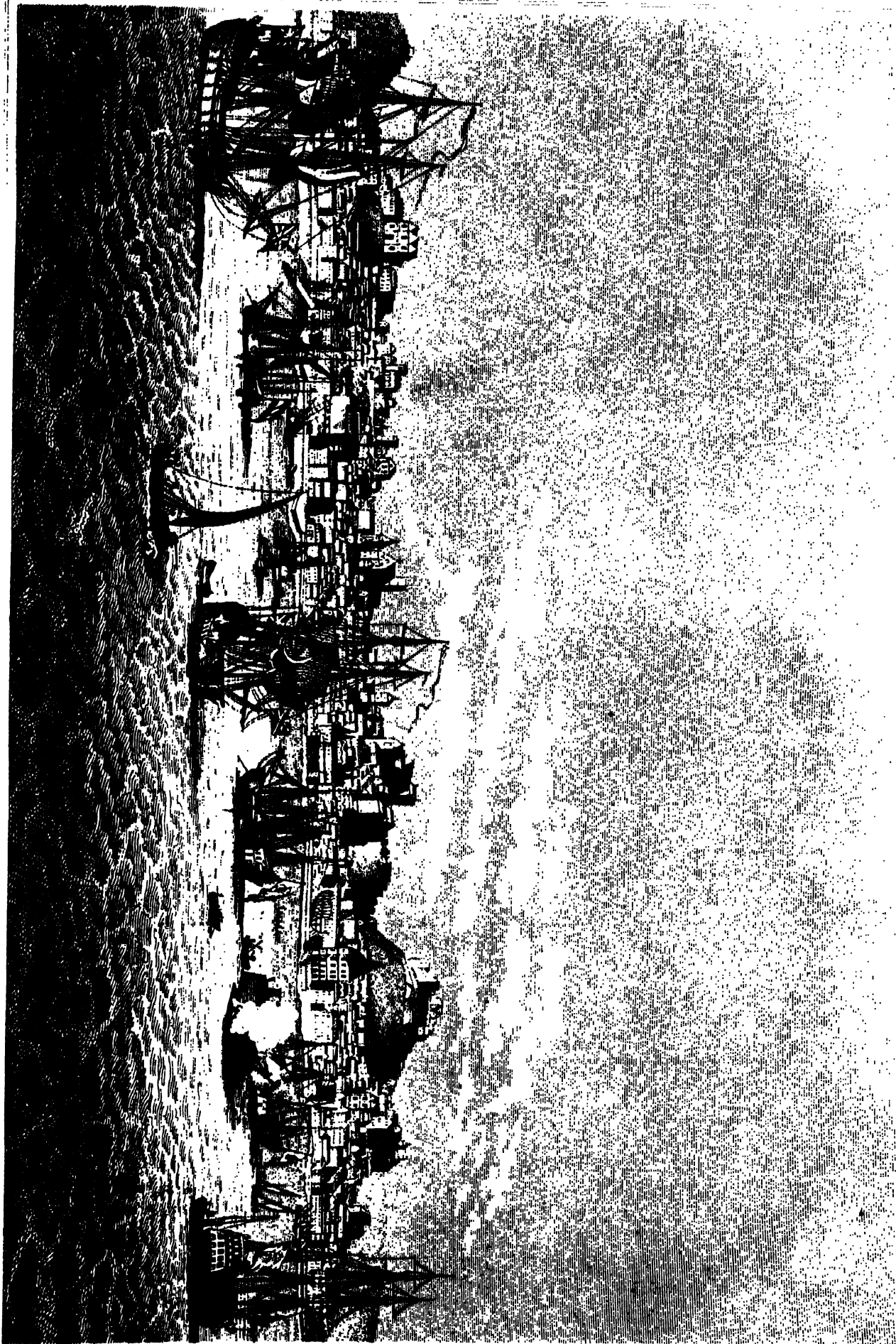
A similarity also subsists between the two peninsular kingdoms in reference to their Mineralogy. The *Lusitanian*, as well as the *Iberian*, mines were of ancient celebrity; but both are now equally neglected. A scarcity of fuel, a want of industry, and, still more, the possession of vast colonial wealth, have all been instrumental in producing this disregard of the native treasures. MINERAL WATERS have been discovered in several places; but those of *Caldas da Rainha*, in Estremadura, and of *Chaves*, in Traz-os-Montes, are the most noted.

CHAPTER II:

Principal Cities, Towns, and Buildings—Manufactures and Commerce.

FEW towns in Portugal deserve a particular description. LISBON is the capital, and the grand emporium of the kingdom. It stands on the north side of the Tagus, about ten miles from the sea, but there the estuary of the river expands into a spacious body of water, about nine miles in width. Lisbon has a noble and majestic appearance when viewed from the south-east. The broad expanse of water, the number of vessels, with the town rising like an amphitheatre, and the hills forming a background, overspread with villas, churches, and plantations, present a scene surpassed only by the view of Constantinople. But, like that of the Turkish metropolis, this exterior view is deceptive; and the interior of Lisbon greatly disappoints the expectation. Many of the streets in the older parts of the town are crowded and irregular, though in others they are spacious and handsome. Architectural elegance, however, is less profusely displayed in the Portuguese metropolis than in many other European capitals. Lisbon extends about four miles along the bank of the river, and is from a mile to a mile and a half in width. It is unfortified, and the only appearance of defence is an ancient castle situated on a hill in the middle of the old part of the town, and some batteries by the river.

The quays along the river surpass any thing of the kind in London or Paris; but the public buildings in general are much inferior to those in either the British or the French metropolis. Some of the mansions of the nobility are splendid, but there is a want of taste in their erection. The public edifices are not exempt from the same remark; for their profuse decoration often supplies the place of chaste ornament, and splendour is attempted where simple elegance alone ought to have been consulted. The church and monastery of Belem, where the kings of Portugal are buried, are among the most magnificent. The chapel of St. Rochè is extremely rich, and the patriarchal church is also noted. More than two hundred churches, chapels, convents, and hospitals, stand within the limits of the town, and add greatly to its exterior aspect. Several spacious squares and public walks also adorn many parts of Lisbon. The greatest architectural curiosity is the aqueduct at the north-east of the city. It is a mixture of the Roman and Gothic, and is not more than half a mile long, but in this space it passes through a tunnel and crosses a large defile. The principal arch is esteemed one of the finest Gothic specimens in Europe. It is 107 feet wide, and very high, and such is the solidity of its structure, that, though the fatal earthquake of 1755 caused the key-stone to sink several inches, it still withstood the shock. That concussion was one of the most terrific that has been recorded in modern times. More than six hundred houses were overthrown, and about 30,000 people perished. The combustible materials of the edifices thus being brought into contact with the fires and tapers that were burning at the time, caused a general conflagration still more destructive in its ravages than the earthquake. But these have now been repaired, and much of the improved appearance of the town is owing to that tremendous calamity. Lisbon has some languishing public institutions, and a population exceeding two hundred thousand. The annexed plate affords a good view of the exterior of the Portuguese capital.



Oporto, or the Port, is the second place of commercial consequence in the kingdom. It stands near the mouth of the Douro, and covers an acclivity rising from the brink of the river. It is principally supported by commerce, and is the grand outlet for all the products of the northern part of the kingdom, particularly the wine so well known by its name, and of which fifty or sixty thousand pipes are annually shipped at this place. The other branches of trade are comparatively small, and the population, including the suburbs, has lately been stated at 74,000.

COIMBRA is a venerable city on the north bank of the Mondego, which is there crossed by an elegant bridge, composed of a double row of arches. From the amphitheatrical form of the town, the cathedral, with the other churches and convents, give it a handsome appearance. But it derives its greatest celebrity from its university, which was first founded at Lisbon in 1290, and transferred to Coimbra a few years after, and is now the only one in Portugal. Coimbra is a place of great antiquity, and was the ancient capital of the kingdom. It suffered from the earthquake of 1755, as well as from repeated sieges, and its population is now only about 12,000.

BRAGA is one of the principal towns in the interior. It is well built and pleasantly situated about the middle of the province of Entre Douro-e-Minho, and contains a population of twelve or thirteen thousand individuals. SETUVAL, situated on the bay which indents the country east of the Cape of Espichel, is a large trading town, with about 20,000 inhabitants. TAVIRA, the capital of Algarve, is also a similar commercial town on the south coast of Portugal, and has been stated as possessing nearly an equal population.

MANUFACTURES are greatly neglected in Portugal; and though not destitute of establishments for making linen, woollen, and silks, with stuffs of various kinds, hats, glass, and some other articles, the produce bears but a small proportion to the consumption of the kingdom. Many of the finest materials are produced by the country or its colonies, yet such is the want of industry in the people, that they leave the manufacturing of them to other nations.

Portugal has long been a COMMERCIAL power. Her flag is known in all regions, and her colonies spread over large tracts in distant parts of the globe. From these, in addition to the produce of her own soil, she derives the materials of an extensive commerce. Her intercourse with her colonies alone is great, and Lisbon has long been one of the first commercial cities in Europe. The exports from the Portuguese capital to England are the wines called Lisbon and Calcavella, oranges, lemons, and other fruits, with cork, silk, and wool. The returns are cottons and other articles of British manufacture, with stockings, watches, trinkets, hardware, copper, lead, coals, salt fish, and provisions, besides corn and flour, from Ireland. Lisbon sends to the north of Europe salt, wine, fruit, and colonial produce; for which she receives hemp, flax, iron, timber, deals, salt-fish, pitch, linen, and grain. Portwine is principally shipped at Oporto, both for England and other parts of the globe. The remaining branches of trade at that city are the same as at Lisbon, with the exception of oil, which is chiefly procured at Oporto. Much salt is exported from Setuval, particularly to the north of Europe.

CHAPTER III

Government and Constitution—Laws and Jurisprudence—Army—Navy—Revenue—Political Importance and Relations—Religion and Ecclesiastical Geography—Education—Language and Literature—Arts and Sciences—Manners and Customs.

THE GOVERNMENT of Portugal was lately one of the most absolute Monarchies in Europe, and though the *Cortes*, or states, claimed some privileges as it respected the constitution of the country, these were nothing more than the shadow of power, as is evident from the preamble to every new law. "I the King, in virtue of my own certain knowledge, of my royal will and pleasure, and of my full, supreme, and arbitrary power, which I hold of God, and for which I am accountable to no man on earth, do, in consequence order and command," &c.—When the French invaded the country, and approached Lisbon, the king abandoned his dominions, and removed his court to the Brazils, where he still remains. The present agitated state of Portugal precludes any further account of its constitution, and renders the remarks we have already made in reference to Spain, equally applicable to this western part of the peninsula.

The LAWS of Portugal are comprised in three small volumes, and when any case occurs for which provision is not made in this code, it is decided by the Roman law, upon which the code itself is founded. Much labour has been bestowed upon the improvement of these statutes, and their lenity is manifested in the case of robbery, which can only be punished with death for the fourth offence. Torture has long been abolished. The superior courts are held at Lisbon and Oporto, and from their decisions there is no appeal. In reference to the administration of justice, the whole country is divided into forty districts, in the principal city or town of which a court is held, and a judge, with assistants, resides. The *Comarcos*, answer to our magistrates, but their powers are more extensive. From these an appeal lies to the district courts, and thence to the superior tribunals.

From the part which Portugal took in the late peninsular war, her ARMY was raised much beyond the number of European troops she had been accustomed to maintain; but since the peace, the regular Army has been reduced to less than 20,000, with about an equal number of militia. The NAVY consists of eight sail of the line and nearly 20 frigates. The annual REVENUE is about three millions, which arise from the patrimonial domains belonging to the house of Braganza, and various taxes, with the excise and the customs, the latter being, in some cases, very high, and levied upon the necessaries of life.

Portugal, like Spain, has fallen from its former POLITICAL IMPORTANCE. Her armies were valiant, her navy victorious, and a brilliant career of conquest and discovery daily augmented her possessions in distant parts of the globe, and increased her respect at home. Portugal was indebted for much of this distinction to the part she took in the maritime enterprizes of the 15th and 16th centuries; but more powerful competitors have since arisen, and Portugal has sunk from the eminence she then attained. Her experience, her productions, her possessions, and her wants, point to the same political relations as those of Spain; while her power and influence, place her only in the third class of European states. But her political influence is

now too small to be of importance to any of the larger powers except as an auxiliary.

The RELIGION of Portugal is the Roman Catholic ; and, as in the sister kingdom, its leading character has long been a superstitious observance of rites and ceremonies, in connexion with the utmost laxity of moral conduct. The influence of the inquisition was, till lately, in full force, though papal authority has for many years been on the decline.

There are two archbishops and eight bishops in Portugal. The archbishops are those of Braga and Evora. There is likewise a patriarch of Lisbon, who takes precedence of all the other ecclesiastics, is always first chaplain to the king, and a cardinal of the consistory at Rome ; his revenue is stated at £30,000, annually.

EDUCATION has been much neglected in Portugal. The means of instruction designed for the lower classes, have always been defective, and those adapted to the wants of the higher, are by no means efficient. The university of Coimbra is of ancient fame, besides which, there is an academy of sciences at Lisbon, and other institutions of a more recent date ; yet Portugal is behind most of the European countries in mental acquirements. The Portuguese LANGUAGE is a kindred dialect to the Spanish, but more intermixed with French words and phrases. Some of the Latin idioms and expressions are also preserved with greater purity in the Portuguese than in either the Spanish or the Italian.

Her LITERATURE is scarcely known beyond the precincts of her own dominions, except by the admirable poem of the *Lusiad*, and the other works of the same writer. This noble poem, which owes its existence to the surprising genius of Camoens, is preferred by M. Schlegel to the epics of Ariosto and Tasso, for its intense nationality. It participates more of the nature of the Spanish heroic poem of the *Cid*, but surpasses it in richness and grandeur. The wilderness of America then belonged to Spain, but the riches of India to Portugal ; and the poet was himself a warrior, an adventurer, and a circumnavigator. The Arts and Sciences have not made greater progress than Literature.

In many respects the inhabitants of Portugal resemble those of Spain. The higher classes have less knowledge with more voluptuousness, and an inferior sense of that inviolable honour which disdains whatever is ignoble, and raises the Spaniard above most other Europeans. But the lower orders are more lively, intelligent, and industrious. The Portuguese in general are not so tall or well made as the Spaniards ; they have swarthy complexions, black hair, and dark eyes, and are accused of being irascible and revengeful. The females are small, and their complexions brown ; but their features are regular, with dark expressive eyes. They are generally considered sensible and modest. Their dress resembles that of the Spanish females, but the English and French costumes are occasionally worn. The dress of the men differs only from that of those nations in the use of a large cloak, which they wear at all seasons.

Little of that adventurous and enterprising spirit which distinguished their forefathers is manifested by the modern Portuguese. It has degenerated into a passion for luxurious pomp and parade ; but this is accompanied by a great hospitality to strangers. Amusement is sought with much eagerness ; and music, balls, theatres, bull-fights, and church festivals, completely occupy the thoughts of those who are not compelled to labour for daily subsistence. The Spanish dances are adopted, and the fandango, under the name of a *Soffa*, has lost none of its wanton character by this transfer.

Most of the peasants are still in a state of vassalage, and the pride of the nobles precludes all intercourse with the lower classes, who subsist upon the hardest fare. A piece of black-bread and a salted pilchard, or a head of garlic, constitute

their chief diet. They are sometimes enabled to procure a salt-cod, which is considered a great luxury. They have scarcely any furniture in their miserable huts, and, like the Moors, sit crossed-legged on the ground.

The straw mantle worn by the Spanish shepherds of the kingdom of Leon, is used by the Portuguese peasants, and a high conical cap often supplies the place of a hat. In reference to Lisbon, Mr. *Semple* observes, "Among the peasantry who come from the country, especially on Sundays, it is easy to observe a number of particulars in dress and manners, which must be referred to Celtic origin. Instead of hats they frequently wear caps or bonnets; the ancient plaid, too warm to be carried in this climate as a cloak, is converted into a party-coloured sash, which they wear round the middle, and in which they uniformly carry a dirk or long knife; and their favourite instrument of music is the bagpipe, adorned with ribbands, exactly similar to that used in the highlands of Scotland. To the sound of this very ancient instrument, two or three of them dance a kind of reel; or if the tune be slow and solemn, the piper walks backwards and forwards amidst a silent and attentive crowd. In their lively dances they raise their hand above the head, and keep time with the castanets. The Scottish highlanders observe exactly the same practice, and I am fully persuaded that their strong snapping of the fingers is in imitation of the sound of the castanet."

In tilling the land, and in all the other laborious occupations of life, they are subject to great extra labour from the backward state of the mechanical arts. The implements are all of the rudest construction. Their cars are exactly like the first rough attempts of the ancient Lusitanians. They consist merely of a few pieces of wood fastened to an axle, which is fixed in two low solid wheels and drawn by oxen.

Much of the country is mountainous, and the roads very bad, and as an apology for this the Portuguese say they do not wish to make roads for the Spaniards to Lisbon. Travelling is therefore very difficult, and mules are usually preferred, as being more sure-footed than horses. Ladies generally travel in litters, which are a kind of large sedan capable of holding two persons, the one facing the other. The litter is fixed to two poles, the extremities of which are fastened to the saddles of two mules, one of them in front, and the other behind; and in this manner they proceed over the rough and mountainous districts with comparative ease.

CHAPTER IV.

Antiquities and Curiosities—Islands, Colonies, and Settlements.

THE ANTIQUITIES of Portugal are of the same kind as those of the adjacent country, and owe their origin to the Romans, the Moors, and the Christians. An extensive series of arches, once a Roman aqueduct, still remains near the northern confines of the country. The aqueduct at Coimbra is still in good preservation. The walls of Santarem are considered as the work of the same people. The ruins of a temple of Diana, with a well-preserved aqueduct, are also to be seen at Evora. Near Braga and at Chaves, the remains of baths, columns, arches, and other specimens of Roman art have been discovered.—Castles are the principal monuments left by the Moors; and fragments of these may be seen at Torres-Vedras, and other places. Numerous churches and monasteries, which adorned the early ages of Christianity, still exist; among them is the Dominican monastery of Batalha, in Estremadura, and about 60 miles north of Lisbon, founded by John I., in consequence of the victory he obtained at Albu jarota, which placed him on the throne of Portugal. The church of this monastery is greatly admired for its architecture, for the ornamental elegance of its columns and arches, and the admirable symmetry of its fine open tower. The Cistercian Abbey, at Alcobaça, in the same province, was also esteemed a fine specimen of those religious edifices, but it suffered greatly from the French soldiers in 1811.

A lake called Escuræ, on the summit of the mountain of Estrella, is generally considered among the Natural Curiosities of Portugal. Its depth seems not to have been ascertained. Its water is of a dark green colour, and it has never been known to produce fish. It is said to be agitated at the same time as the sea, but this may proceed from a similar cause acting upon both, without any subterranean communication between them, as some have supposed, and which its great elevation above the level of the ocean necessarily precludes. The other Natural Curiosities are principally caverns and mountain scenes. Among those of an artificial kind, are the immense mines that were worked either by the Phœnicians or the Romans. These are in the province of Traz os Montes. One of them near St. *Miguel das tres Minhas*, is about a mile and a half in circumference, and nearly 500 feet deep. It is sunk in the solid rock, and at the bottom the cavity is about 2400 feet long, and 1400 broad. Other similar excavations are found in the same vicinity. The front of a large rock on the north bank of the Douro, which is covered with hieroglyphics, and stained with vermilion and blue, deserves to be mentioned. A convent on the mountains of Cintra, stands about 3000 feet above the level of the sea, and is the most western building in Europe.

The Portuguese insular possessions in Europe, are the AZORES, or WESTERN ISLANDS, which are situated in the Atlantic ocean, between 37 and 40 degrees of latitude, and about 800 miles from Cape St. Vincent. The whole number is nine, disposed in three similar groups. St. *Michael* and St. *Mary* are nearly at the eastern extremity; the central assemblage includes the five islands of *Tercera*, *Graciosa*, St. *George*, *Pico*, and *Fayal*; while the two small islands of *Corvo* and *Flores*, are detached from the rest, and lie much further north-west.

The Arabian Geographers of the middleages appear to have had some knowledge

of these islands, but they were not known in Europe till towards the conclusion of the 15th century, when Vander Berg, a Flemish merchant, was driven by contrary winds, on their shores. This event soon reached the Court of Lisbon, which was then pursuing its career of maritime discovery. An expedition was immediately fitted out to explore and colonise these newly-discovered isles. The Flemings also took possession of Fayal, where traces of them are still visible. When Philip II., seized upon the vacant throne of Portugal, in 1580, these islands were subjected to the Spanish yoke, and continued under their dominion till the Duke of Braganza was raised to the throne in 1640. The Portuguese government, however, soon became too lethargic to bestow much care on this part of its dominions; but its want of exertion was supplied by the beauty of the scenery, and the salubrity of the climate. These caused an influx of inhabitants; cities were founded, and the population greatly increased. Such are the physical construction and phenomena of these islands, that little doubt remains of their volcanic origin. The conical mountains, the mouldering lava, the sulphureous exhalations, the boiling springs, the repeated earthquakes, and the rising of new islands from the deep, all indicate the presence of subterranean fire. Nature appears every where smiling; the plains wave with golden harvests, delicious fruit adorn the side of the hills, and the towering summits are crowned with beautiful ever-greens. Little would the superficial observer suspect that nature had chosen such a scene for the display of her most terrible phenomena; yet few mountains remain, which, after being formed by the volcano, have not been rent by the earthquake. In 1591, these islands were shaken by violent concussions for twelve successive days, and the villa Franca entirely overthrown. In 1757 a similar occurrence took place. One of the most remarkable physical phenomena, however, attending the Azores, is the emerging of new islands from the bottom of the sea. In 1720, an English captain sailing to Tercera saw a fire issuing from the sea, and on approaching the place next day, he observes, "we made an island of fire and smoke. The ashes fell on our deck like hail and snow. The fire and smoke roared like thunder or great guns." An occurrence of this kind also took place in 1811, about half a league from the western extremity of the island of St. Michael. It was attended with the usual circumstances of fire issuing from the surface of the sea, accompanied by volumes of smoke and showers of scoria and lava. The newly-formed rocks, however, did not emerge from the surface, but remained just below it, with the waves dashing violently against them. Before this phenomenon, the soundings at the place were about 80 fathoms, and deep water was afterwards found close to this embryo island.

St. MICHAEL's, the largest of these islands, is about 50 miles long, but narrow in proportion, and contains a population of eighty or ninety thousand people. The soil in many places is rich, and the climate delightful. The plains yield good crops of wheat, barley, and Indian corn, while vines and oranges of excellent quality grow luxuriantly on the higher grounds. These even spring from the crevices of the volcanic rocks, which are sometimes blasted to receive the plants, and the fruit of such are always of a superior quality. The chief exports of this, and all the other islands, are wine, fruits, and provisions. The principal town is *Ponta del Gada*, which is tolerably well built, and has a population of about 12,000 persons. It stands on the coast, but its harbour will only admit small vessels; the others anchor in the roadstead, opposite the town. *Ribeira Grande* and *Villa Franca* are considerable towns; the former contains about 10,000 inhabitants.

Hot springs abound in this island, and a steaming vapour issues from almost every crevice. But the most remarkable phenomena it exhibits, are the *Caldieras*, or boiling springs, which rise principally from the valley of Furnas, near the western extremity. The water ascends in columns twelve or fourteen feet high, and then

dissolves in vapour. It is very hot and strongly impregnated with sulphur, with which the ground, in the vicinity, is covered. At a short distance from this place is the remarkable phenomenon called the *Muddy Crater*, which is a pool of nearly forty-five feet in diameter, on a level with the surface of the plain. Its contents are about the consistence of melted lead, and always in a state of violent ebullition, with a noise resembling that of tumultuous waves, but it never overflows. Numerous hot springs are also found in the same valley, some of which it is impossible to touch without being scalded; but as there is generally a cold spring very near, the waters can easily be brought to the proper temperature for baths, from which great benefit is derived in paralytic and rheumatic complaints.

TERCERA is the principal island belonging to the central group, and though less than St. Michael's, has, from its central situation, been chosen as the seat of government. It contains about 50,000 inhabitants, and abounds in grain and cattle, but is less productive of wine and fruit. Like St. Michael's, it presents traces of its volcanic origin, but they are not so prominent. *Angra* is the chief port, and is more convenient than that of Ponta del Gada.

FAYAL is the most frequented, and its harbour is the best in the Azores. Its appearance and prospects are the same as those of Tercera. *Villa de Horta* is the chief town. It stands on the shore of a fine bay, and is defended by two castles. The prominent edifices are two convents for monks, and three for nuns, with eight churches, which are the only buildings with glazed windows.

PICO consists of one immense conical mountain, rising to the height of 7000 feet above the level of the sea, and exhibits every mark of volcanic origin. The soil is entirely composed of pulverized lava. All the lower parts of the mountain are cultivated, and much of it is covered with vineyards and orange plantations. About 5000 pipes of wine, which is an inferior sort of Madeira, are annually exported, besides a valuable kind of wood resembling mahogany.

GRACIOSA is principally noted for the beauty of its scenery; and ST. GEORGE has lately experienced one of those tremendous visitations to which the Azores are continually subject. In 1808, a *Caldeira*, near the centre of the island, was observed to be in a state of violent ebullition, and to emit loud rumbling noises for several days. At length streams of fire issued amidst clouds of smoke that wrapped the whole island in midnight darkness, except where the volcanic flames shed their dull red light on the dreary scene. The stream of lava rolled its fiery flood towards the town of *Ursula*, but changed its direction just before reaching it, and flowed into the sea by a different channel.—The other two detached islands are small and but little visited.

Portugal long possessed vast territories in all the other parts of the globe, but many of these were conquered by the Dutch during her humiliation to the crown of Spain, at the beginning of the 17th century.—In *Asia*, she still has *Goa*, on the Malabar coast, with *Macao*, near the coast of China.—In *Africa* their settlements are more numerous than those of any other European power. The city of *Magazan*, on the coast of Morocco; *Madeira*; the *Cape Verd* Islands; some forts near the river *Gambia*; the isles of *Fernando Po*, *St. Thomas*, and *Annobon*, in the gulf of *Guinea*; *Loando* and other establishments in *Congo*; with the city of *Mozambique*, and numerous forts on the east coast, all belong to Portugal.—In *South America* they possess the immense regions which now compose the new kingdom of *Brazil*, and stretch along the eastern coast nearly from the mouth of the river *La Plata* to the equator, where they are at least two thousand miles in breadth.

CHAPTER V.

Statistical and Synoptical Tables.

LATITUDES and LONGITUDES of the principal places in PORTUGAL.

The Latitudes are all *North*, and the Longitudes *West*.

Names of Places.	Latitudes.			Longitudes.			Names of Places.	Latitudes.			Longitudes.		
	°	'	"	°	'	"		°	'	"	°	'	"
Aveiro	44	40	0	8	34	0	Leyra	39	41	0	8	36	0
Beja	37	55	0	7	56	0	Lisbon	38	42	20	9	8	25
Braga	41	33	0	8	5	0	Oporto	41	11	15	8	59	30
Braganza	41	41	0	6	25	0	Peniche	39	21	48	9	23	56
Caldas	39	21	50	9	13	55	Portalegre	39	6	0	7	15	0
Coimbra	40	12	30	8	24	44	Santarém	39	12	0	8	30	0
Cominha	41	45	0	8	35	0	Setúbal	38	22	0	8	54	0
Elvas	38	44	0	6	54	40	Silves	37	16	0	8	40	0
Estremos	38	46	0	7	23	0	Tavira	37	18	0	7	46	0
Evora	38	28	0	7	35	30	Ubes, St.	38	20	0	8	54	0
Faro	37	2	0	7	51	57	Vianna	41	40	0	8	30	0
Lagos	37	6	0	8	49	3	Viseu	40	45	0	7	48	0
Lamego	41	10	0	7	36	0	Vincent, Cape St.	36	44	0	9	0	0

MONIES, WEIGHTS, MEASURES, AND EXCHANGES.

MONIES.

Monies of Account.

Accounts are usually kept in *Rees*, or *Reis*, or *Reas*, which is the smallest money in the country; 1000 of these make a *Millree*. Some merchants keep their accounts in *Crusades* of 400 *Rees*.

The following is the proportion and value of the Portuguese monies of account.

	s.	d.
20 Rees are 1 Vinten, equal to	0	1
100 Rees ... 1 Testoon	0	5
400 Rees ... 1 New Crusado	2	0
400 Rees ... 1 Crusado of Exchange	1	8
50 Vintens.....	}	equal to 1 Milree.
10 Testoons		
2½ Old Crusades ..		
2½ New Crusades }		

Coins.

Gold.

Intrinsic Value.

	Rees	equal to	£	s.	d.
The New Dobra of... ..	12800	Rees	5	11	0½
The Joanes, or }	6400	.....	1	15	11½
Portugal Piece }	3200	.....	0	17	11½
The Half Joanes	1200	.....	1	6	11½
The Moidore (½ in proportion).....	1600	.....	0	8	8½
The Piece of 16 Testoons ...	400	.....	0	6	6
The Piece of 12 ditto	800	.....	0	4	7
The Piece of 8 ditto	480	.....	0	2	7
The New Crusado	400	.....	0	2	5
The Old Crusado.....					

Silver.

The New Crusado	480	.....	0	2	4½
The Testoon.....	100	.....	0	0	6
The Vinten ..	20	.....	0	0	1½

There are also Pieces of a half, a quarter, and an eighth of the Crusado, and of half the Testoon; with copper pieces of 10, 5, 3, and 1½ Rees.

USUAL WEIGHTS.

Gold and Silver Weight.

Gold and Silver are weighed by the *Mark*, which is thus divided.

	Eng. Grains.
24 Grains are 1 Escrupulo, equal to	18.45
3 Escrupulos ... 1 Outava	55.35
8 Outavas 1 Ounce	442.8
8 Ounces..... .. 1 Mark	3542.4

Commercial Weight.

The proportion and values of the Commercial weights are, Avoir. lbs.

8 Outavas are 1 Ounce, equal to	2663253
8 Ounces... .. 1 Mark	506025
2 Marks 1 Pound	101205
32 Pounds..... 1 Araba	32685525
4 Arrabas 1 Quintal	1295421

COMMON MEASURES.

Dry Measure.

The measure for corn, salt, and other dry articles, is the *Moyo*, which is divided in the following manner.

	Win. Bushel.
2 Mequias are 1 Outava, equal to	0.0175
2 Outavas 1 Quarto	0.095
2 Quartos 1 Moyo	0.19
2 Moyos..... 1 Alquiere	0.38
4 Alquieres ... 1 Fanega	1.52
15 Fanegas 1 Moyo	22.8

Linear Measure.

The *Fara* and the *Corado* are the measures principally used at Lisbon.

	Eng. Inches.
8 Inches are 1 Palmo, equal to	8 $\frac{5}{8}$
12 Inches 1 Foot	13 $\frac{1}{4}$
2 Feet 1 Covado	26 $\frac{1}{2}$
5 Palmos..... 1 Vara	44 $\frac{1}{2}$

Liquid Measure.

The *Almude* is the measure by which wine and other liquids are usually measured. It is divided into Canadas and Quartillos.

	Eng. Wine gallons.
40 Quartillos are 1 Canada, equal to	0.37718
12 Canadas 1 Almude	4.51613
13 Almudes 1 Baril	31.29054
26 Almudes 1 Pipa	117.41263
2 Pipas 1 Tonclado	2348.3376

At the Custom House, 140 gallons is the standard for a pipe of Lisbon wine, which is estimated at 51 Almudes.

EXCHANGES.

Lisbon and Oporto exchange with, and give,	
Amsterdam..... 1 Crusade	for 41 Grotes Flemish
Cadiz 2750 Reis	1 Pistole of Exch.
Genoa 8 0 Reis	1 Pezza f. b.
Hamburg..... 1 Crusade	37 Grotes Flemish
Leghorn 800 Reis	1 Pezza of 8 reals

London 1 Milrea	for 50 Pence Sterling
Madrid 2800 Reis	1 Pistole of Exch.
Naples 680 Reis	1 Ducat di regno
Paris 550 Reis	3 Francs
Venice 70 Reis	1 Lira piccola

ITALY.

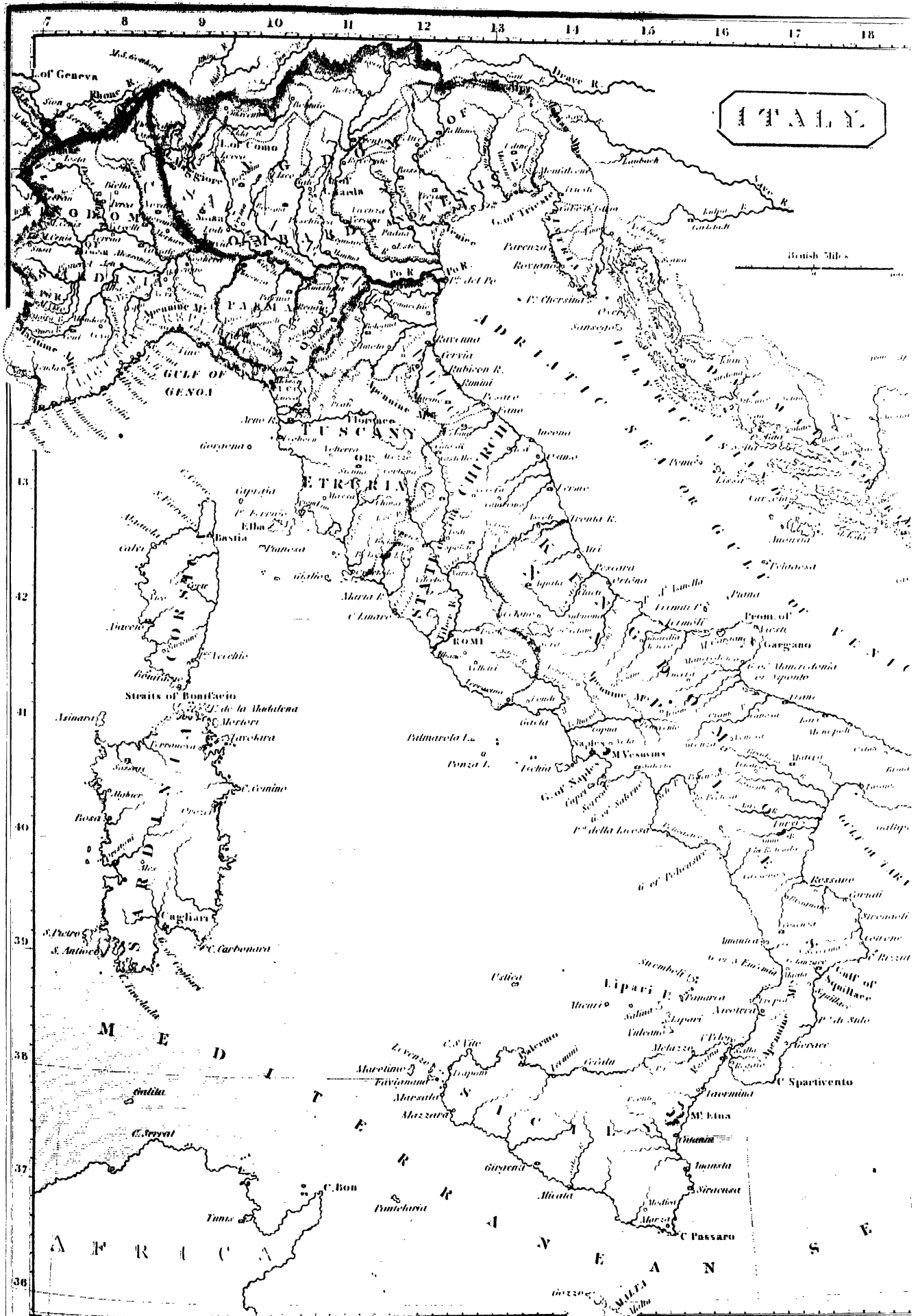
GENERAL VIEW.

Name—Situation—Boundaries—Extent—Population—Original Inhabitants—Progressive Geography—Present Division—General Surface—Mountains—Rivers—Lakes—Climate—Soil—Culture—Produce—Manufactures—Commerce—Religion—Language—Literature—Arts—Sciences—Manners and Customs.

ITALY was anciently distinguished by a variety of NAMES, originally appropriated to particular districts, but subsequently applied to the whole country. It was called *Saturnia*, from Saturn; *Latium*, from the Latini; *Ausonia*, from the Ausones; *Hesperia*, from its western situation in reference to Greece; and ITALY, from *Italus*, supposed to have been a king of Sicily. Under this last name, no country in Europe has acted so conspicuous a part, or obtained such celebrity in the civil, the political, and the ecclesiastical history of the world. Adorned with an endless diversity of scenery, enriched with luxuriance of produce, and rendered delightful by the salubrity of its climate, travellers of all nations have uniformly denominated it the “garden of Europe.” It was anciently the seat of the greatest and most renowned empire that the annals of time ever recorded; and in later periods, the centre of an ecclesiastical supremacy, which extended its influence into every quarter of the globe. Filled with the mouldering monuments of former grandeur, and the masterpieces of modern art, the historian’s pen, and the artist’s pencil, have dwelt with enraptured delight on a theme so replete with amusement and instruction.

This classical fame has rendered Italy familiar to the general reader, and abridged the labour of a geographical description, by confining it more particularly to a delineation of the most prominent features of the country. The ancient political divisions have been completely obliterated, and new ones substituted; but the grand features of nature, by which this portion of Europe is so strongly marked, still remain. Italy is encompassed by the Alps, the Mediterranean, and the Adriatic, and extends from about the 38th to the 47th degree of north latitude. The obliquity of its situation, from north-west to south-east, gives a greater length than this range of latitude implies. In this direction it is about 750 English miles; and though broad at the northern part, soon contracts to a medial breadth of nearly one hundred and ten miles. Its shape bears some resemblance to a boot, ending in a toe at the southern extremity.

The ORIGINAL POPULATION of Italy was derived from different sources. That of the northern division sprung from the Illyrians, who were subsequently augmented, or rather succeeded by the German Gauls. The Etruscans were from Lydia; and the inhabitants of the southern regions, or Magna Grecia, from Greece. From



these last the Romans seem to have descended ; but as their ancestors migrated from the most barbarous parts of Greece, and at an early period of its history, many ages elapsed, amidst tumult and war, before the civilization of Greece displayed itself in the manners and institutions of Rome.

In all periods of its history, Italy has been divided into three great parts. The northern division was anciently denominated *Cisalpine Gaul*, and also *Togata*, from the inhabitants being early permitted to wear the Roman Toga, as citizens of the empire. The middle region was styled *Italia propria* ; and the southern district *Magna Grecia*. The Emperor Augustus divided Italy into eleven provinces ; but after his death they were disregarded. The name of Cisalpine Gaul was, about the same time, discontinued, and that of ITALY, which previously comprised Magna Grecia, extended to nearly its present limits.

A perspicuous delineation of the PROGRESSIVE GEOGRAPHY of Italy, subsequently to the fall of the Roman empire, would involve an abstract of its eventful history, and present a distinct view of its principal civil and political revolutions. But, as the nature of this article precludes such details, and the division immediately preceding the French revolution is the most important, in consequence of its connexion with the present state of the country, the following sketch must suffice.

At that period Lombardy contained seven duchies, viz. Savoy, Piedmont, Mont Serrat, Milan, Mantua, Modena, Parma, and Placentia. The first three and part of the fourth belonged to the king of Sardinia, the others to the Emperor of Austria. The Austrian dominions, with part of the Venetian, and the Ecclesiastical states, were formed by Buonaparte, in 1797, into a new government, under the title of the Cisalpine republic, which was divided into twelve departments. Northern Italy also contained the republics of Genoa and Lucca.

The central division of Italy comprised the states of the church ; the small republic of Marino, under the protection of the Pope ; part of the Venetian territory, Istria ; Dalmatia ; Ragusa, which was an independent state, generally under the protection of the Turks ; and the grand Duchy of Tuscany. This duchy, with Parma, Placentia, and Guastalla, under the French dominion, constituted the kingdom of Etruria.

The southern part of Italy formed the kingdom of Naples, which included Sicily and some of the adjacent Islands.

When success had intoxicated the political arbiter of Europe, he was no longer satisfied with ruling from the Mediterranean to the Baltic, but wished to stretch his dominions from the Atlantic to the Indian ocean. To accomplish the object of his ambitious views, he did not hesitate to sacrifice the repose of the world. But in thus grasping at universal dominion, he hastened his own downfall, and became a prisoner on an insulated rock ; while this part of Europe returned to the political divisions he had so tyrannically violated. At the Congress of Vienna, the king of Sardinia recovered his dominions nearly as they existed in 1792. To the emperor of Austria was assigned the Venetian states, the territory between the Tessino, the Po, and the Adriatic, with the vallies of Valteline, Bormio, and Chiavenna. The arch-duke Francis D'Est was created Grand Duke of Modena, and the arch-duchess Maria Beaurice D'Est became hereditary sovereign of the duchy of Massa, and the principal city of Carrara, with the Imperial Fiefs in La Lunigiana. The arch-duchess Maria Louisa, (the late empress of France) was made sovereign of the duchies of Parma, Placentia, and Guastalla. The archduke Ferdinand of Austria regained the Grand duchy of Tuscany, and the principality of Piombino, with that part of Elba which belonged to the king of the two Sicilies. The pope acquired the marshes with their dependencies, and Ferdinand IV., king of the Two Sicilies, was restored to the throne of Naples.

Italy is now divided into the following independent governments, to which their extent and population are annexed.

<i>Governments.</i>	<i>Sq. miles.</i>	<i>Population.</i>
1. Lombardo-Venetian Kingdom	18,660	4,111,535
2. Kingdom of Sardinia	27,400	3,994,000
3. States of the Church, or Pope's Dominions ..	14,500	2,346,000
4. Kingdom of the Two Sicilies.....	43,500	6,618,000
5. Grand Duchy of Tuscany	9,270	1,170,000
6. States of Modena	2,480	435,000
7. States of Parma	2,300	380,000
8. Duchy of Lucca.....	430	124,000
9. Republic of San Marino	40	7,000
	<hr/> 118,580	<hr/> 19,185,535

The general aspect of Italy is mountainous, yet its surface is greatly diversified with hills and vallies, rivers, lakes, and mountains. There is scarcely one extended prospect which does not embrace several of those distinguishing features, while the general serenity and purity of the atmosphere give a peculiar brightness to every scene. The Alps, with their various ramifications, impart a bold and precipitous character to the northern regions, which is contrasted with gentle declivities, and spacious plains, on their southern borders, through which numerous classical rivers roll their waters into the majestic Po, and thence are hurried to the Adriatic. From that extremity of the Alps, which verges on the gulf of Genoa, the Apennines extend through the whole of Italy, at nearly equal distances from its lateral shores. No part of this ridge attains great elevation; while various branches diverge from it on each side, giving an undulatory appearance to the whole country.

On approaching the southern extremity of the peninsula, the Apennines divide into two branches, one of which advances towards the east, to Capo de Leuca, and the other southward to the straits of Messina, which separate Italy from Sicily. This diversity is increased by several detached mountains, among which is the volcanic Vesuvius, impending over the gulf of Naples, and frequently mingling its liquid fire with the waves. The Apennines are less difficult of ascent than the Alps, and are in many parts, clothed with trees to their summits; yet in other places they attain sufficient altitude to be covered with large masses of ice and snow, which supply the inhabitants of the adjacent regions with the most cooling and refreshing beverage during the sultry seasons of the year. Most of the rivers of Italy descend from the Apennines, and adorn and fertilize the lower tracts. This range receives different names, and exhibits different characters, according to the regions through which it passes. Many of the mountains that compose its southern parts are volcanic, but their fury is now either suspended or wholly extinct.

In point of general scenery Italy can scarcely be exceeded. Its mountains present every variety of shape and magnitude, of rugged precipices, woody declivities, snowy summits, winding bases, and all the possible materials of picturesque beauty. Even the plains are varied by gentle swells and bolder elevations; while the extraordinary purity of the atmosphere, and consequent brightness of the light, gives a distinctness to every object, which cannot be conceived by those who are accustomed to the dimness of a vapoury sky. Its views, in short, we are assured by the concurring testimony of the most intelligent observers, never disappoint the traveller, or fall short of his expectations. The highest picturing of the imagination, and brightest descriptions of poetry, do not surpass the effect produced by viewing the vale of Clitumnus, the falls of the Anio, the banks of the Nar, the waters of Tiber, the groves of Albano, the plains, hills, coasts, and bays of Campania Felix."—*Eustace.*

The following are some of the most noted heights in Italy, as derived from *Mechel's* diagram, and other authentic sources.

	English Feet
Donno Donzola, Plan du Simplon	1,003
Il Cimone di Fanano, in the Duchy of Modena, the highest summit of the northern Apennines. It is called also, Monte Orientale, because it is situated a little to the east of the great chain of the Apennines, from which it is separated by a valley; it is insulated, and its base is 25 miles in circuit. The Adriatic and the Tuscan Sea are seen from its summit; measured by Father <i>Pini</i>	6,971
Monte Radicoso, the highest part of the Apennines that the road passes over between Bologna and Florence	2,901
Siena	1,066
Radicoferri, at the post	2,470
Mountain at Radicoferri	<i>Mechel</i> 3,054
The summit of Monte Sant Oreste, anciently Soracte, 28 English miles north of Rome, measured geometrically	2,271
Monte Cavi, the highest summit of the Albano hills, 20 miles south-east of Rome	<i>Mechel</i> 3,118
The summit of Monte Vellino, north of the lake of Celano in Abruzzo, the second in height of the Apennines, covered with snow in June, (8383 M. Von Buch)	8,397
Monte Corno, called Il Sasso Grande, the highest of the Apennines, 30 miles north of the lake of Celano, in Abruzzo, (8791 Reuss lehrbuch der Geognos.) measured barometrically, by Delfico, as cited by Brocchi ..	10,199
Montagna della Sibilla, 26 miles east of Foligno	<i>Mechel</i> 7,495
Mount Vesuvius, mouth of the crater whence the fire issued in 1776, <i>Mechel</i> 3698 Sch.	3,938
Monte Baldo, on the east of the lake di Garda	<i>Mechel</i> 7,238
Monte Venda, one of the Euganean hills, a little south of Padua	<i>Mechel</i> 1,603

SICILY AND CORSICA.

Etna	<i>Mechel</i> 11,946
Monte Rotondo, in Corsica	8,667

The principal RIVERS of Italy are the Po, the Adige, the Arno, the Tiber, the Tanaro, the Tesino, the Trebia, the Adda, the Oglio, and the Mincio.

The prince of the Italian rivers is the majestic Po, the *Padus*, and *Eridanus*, of antiquity. It rises near the centre of the western Alps, and flows eastward to the gulf of Venice. The Po receives numerous streams before it reaches the walls of Turin, after which it has constant accessions from the Alps, on the one side, and from the northern parts of the Apennines, on the other. It then ranks among the largest rivers of Europe, and discharges its accumulated waters, by several outlets, into the northern extremity of the Adriatic, after having passed through an extent of about 300 miles, and watered 50 cities in its progress.

This noble river is navigable to within 25 miles of its source. The chief of its tributary streams are the Dorio, the Tesino, the Adda, and the Oglio, which convey to it the overflowings of most of the sub-alpine lakes. The Tanaro also descends from the south-western part of the Alps, and joins the same river.

The Adige has already been described with the Austrian states, and the others will be delineated in the account of the territories to which they belong.

Italy is distinguished for the number and beauty of its LAKES. Among them are Maggiore or Lucarno, Lugano, Como, Lecca, Iseo, Garda, Perugia, Bolsena, Celano, Varano, and Averno: but they constitute the prominent characteristics of particular states. It deserves to be remarked, however, in this place, that "the principal feature which distinguishes the Italian from the British lakes is, that the former, besides their greater extent, are surrounded by towns, villages, churches, and country-seats, all placed, as if by the hand of the painter, in the most picturesque situations, finely contrasted with, and relieving, the sublime and rougher parts of the landscape."

The CLIMATE of Italy corresponds with the extent of its latitude, and the diver-

sity of its surface. The eternal snows and glaciers of the Alps manifest the intensity of cold which bears an unremitting sway in those elevated regions. Breezes from the sea, and from the Apennines, also mitigate the effects of solar heat. The summits of these mountains are frequently covered with snow, and it is in the southern part only that mild winters can be enjoyed. The atmosphere is remarkably serene and bright, though Italy is nearly encompassed by the sea, and contains marshes from which those noxious vapours are exhaled, that occasion the pernicious state of the air, which the natives call *mal-aria*. The serenity and salubrity of the climate is likewise interrupted by the enervating *Sirocco*. The climate of Italy may therefore be regarded as genial and temperate, but it often varies greatly in districts not far distant from each other. Italy has been, in this respect, divided into four separate regions, the climate of each possessing some distinguishing peculiarity. The first of these divisions embraces the basin of the Po, extending about 260 miles in length, and 150 in its greatest breadth. This tract is bounded by the Alps and Apennines on the north-west and south, and open to the Adriatic on the east. Here the atmosphere is uniformly clear and bright; and the sultry effects of a cloudless sky, being tempered by refreshing breezes from the adjacent mountains, renders the climate one of the most salubrious and delightful in Europe.—The second region, which includes the Tuscan and Roman territories, being screened on the north by the Apennines, is more exposed to the heats of summer than to the rigours of winter. Frost and snow are sometimes experienced, but the temperature is sufficient to mature the orange and the fig, and consequently to produce most of the other delicacies of the vegetable kingdom.—The third district includes Campania Felix, and its dependencies, where nature pours forth her vegetable treasures in the greatest perfection, where the air is uniformly genial and serene, and where a peculiar beauty glows in every prospect. The fourth division, stretches from the Apennines to the Adriatic, and embraces the southern districts of the peninsula. It is warmer than any of the others, and more distinguished for the productions of a southern climate such as the aloe and the palm. The climate of Italy, however, not only varies in these general districts, but experiences much diversity from elevation and other local causes. The sea breeze, which rises about eight in the morning and continues till four in the afternoon, prevents even the hot months from being sultry and oppressive.

Little rain falls in Italy during summer, but occasional showers refresh the air, and revive vegetation, and these are often accompanied with thunder. In autumn the rains are regular and heavy, while inundations are frequent in winter. But one of the most remarkable peculiarities in the climate of Italy is the *mal-aria*, which prevails in certain districts during summer and autumn. This tract is denominated Maremma, and extends about 190 miles from Leghorn southward, and 40 at its greatest breadth in the Campagna di Roma. The atmosphere in these regions betrays no visible signs of insalubrity, for the sky is as clear, the air as calm, and the verdure as fresh as in the most healthy districts. But its influence in producing the most malignant fevers often proves fatal, even in elevated, dry, and airy situations, and particularly on those who sleep in the open air. Much of this insalubrity has been ascribed to the neglected state of the cultivation, and exposure to the damps of night.

The SOIL and AGRICULTURE of Italy vary in different parts of the country, and will necessarily form proper topics in the description of each state; but with respect to the great outlines of cultivation, Italy may be divided into three regions. The first comprises Lombardy, or the basin of the Po, which is one of the most fertile tracts on the globe; but not more so in consequence of the bounties of nature, than of the exertion of human art and industry, as culture is there carried to great perfection. The second district is the Maremma, which is almost exclusively devoted to pas-

turage. The third embraces the southern regions, where cultivation is at its lowest ebb. The implements of agriculture are of the rudest construction, and set all the principles of mechanics at defiance. The grain is usually separated from the straw by the treading of cattle, which are tied together and made to move in a circle till the operation is complete. In some tracts a still more exceptionable method is adopted. A large stone is tied between two oxen, which they drag over the sheaves till it beats out the grain.

The principal vegetable productions of this peninsula are rice, rye, millet, flax, cotton, tobacco, grapes, olives, dates, figs, oranges, cherries, almonds, nuts, manna, liquorice, aloes, and a multiplicity of shrubs, and forest trees. Mulberry trees are cultivated in such numbers as to render silk one of the staple productions of the country.

Little attention has been paid to the improvement of the domestic cattle of Italy, except in importing a fresh stock of cows annually from Switzerland. Hence the horses, cattle, and sheep, present nothing remarkable. Large herds of them, however, are fed in some of the marshy plains.

Among the animals of the chase, the wild-boar, the marmot, and the ibex are the inhabitants of the Apennines, and the crested porcupine is supposed to be peculiar to the southern regions. The lynx also frequents various parts; and deer with all kinds of grain are common. Reptiles abound in the stagnant marshes and uncultivated places. Fish are numerous on the coasts, and Swinburne mentions fifty kinds that are caught in the vicinity of *Taranto*. Italy is also rich in mineral products, among which are gold, silver, lead, iron, copper, antimony, arsenic, and zinc. Cobalt, plumbago, alum, and salt, are likewise obtained in various places. Calcareous combinations form the chief components in the Italian mountains and beautifully variegated marbles abound, while sulphur and other volcanic products distinguish many parts.

In point of physical circumstances, Italy is capable of supporting a numerous manufacturing population, but industry is wanting; and hence its MANUFACTURES are neither various nor extensive. Those of silk, wool, cotton, thread, pottery, and porcelain, with musical instruments, glass, and a few others, are the principal.

The COMMERCE of Italy, like its manufactures, is not flourishing. Its principal exports are silk, wool, and cotton, in their raw state, cattle, corn, wine, fruits, and various other products. Its imports consist chiefly of manufactured goods, as hardware, silver-plate, and leather, with dried fish, colonial produce, and several Indian articles.

The RELIGION of Italy is the Roman Catholic, to the rites and ceremonies of which the Italians are attached by a superstitious veneration, rather than guided by that bigotted and fiery zeal which, in some countries, kindled the flames of the inquisition, the rigours of which the Italian policy has always been careful to mitigate.

The LANGUAGE of Italy is elegant and melodious. It was one of those that rose out of the Latin, when the mind awoke from its lethargy after the fall of the Roman empire, and is the most harmonious dialect that has sprung from that source. It has continued in nearly the same state since the days of *Dante*, *Petrarca*, and *Boccaccio*. Sweetness of expression is its characteristic feature; and though it seems to be formed for the aid of music, its dignity and vigour are displayed in the tragedies of *Alfieri*; its ease and grace in the comedies of *Gherardo de Rossi*; and its tenderness, delicacy, and simplicity, in the pastorals of *Metastasio*.

“In science, philosophy, and erudition, the Italians rose to eminence while the rest of Europe remained immersed in ignorance and barbarism. In the fine arts of painting, sculpture, and architecture, they established new schools, which vied with the noblest of antiquity, and filled their country with master-pieces, which the

artists of other nations are still content to admire and to imitate. In the higher walks of painting, particularly, no modern productions are admitted to a competition with those which Italy exhibited more than two centuries ago. The Italian music is absolutely a new creation, and has carried the harmony of sounds far beyond the limits of ancient skill and science. Every delicate ear in Europe may be said to be tuned by it; and the eminence of modern German composers is only that of successful scholars. But Italy has had her day. With the declension of her political consequence and independence her arts have declined, and she is now rather the repository than the workshop of great performances. Her literature, however, is still respectable; and science, when encouraged, or rather when suffered, finds ample and zealous votaries. She is still acute and inventive, elegant and facile."—*Aikin*.

Many elegant writers of history, antiquities, political economy, and other branches of literature might easily be enumerated. The memoirs of the academies of Mantua, Milan, Turin, and particularly of Verona, contain some eminent productions in science. Those of Bologna and Florence, have also been distinguished for their scientific researches; and the Royal Institute at Naples has produced many valuable mathematical dissertations.

No country in modern Europe has surpassed Italy in the number of men eminent in literature, science, and the fine arts. Nor has any exceeded her in the number of universities and learned societies, under the name of academies. These have been established in most of the large towns, the chief of which are:

Rome	Mantua	Verona	Bologna	Naples
Venice	Padua	Milan	Ferrara	Salerno
Florence	Parma	Pavia	Pisa	Perusia

Italy is a country of painters, sculptors, and architects. The various schools they have established, and the noble works they have produced, are still the admiration of other nations, and the perpetual theme of their own. Some of these works display the most gigantic efforts, in a bold elevation of style, rather commanding than exciting pleasure. Others carry invention and design to the greatest perfection. Some are distinguished by admirable imitations of well chosen subjects of nature, and others, by a seducing and voluptuous grace, combined with magic harmony of colouring. The names of *Leonardo da Vinci*, *Michael Angelo Buonarrotti*, *Raphael*, *Claude Lorrain*, *Titian*, and *Correggio*, are alone sufficient to excite peculiar emotions in the mind of every lover of the arts.

Italy is literally filled with curiosities of nature, and the mouldering monuments of human grandeur, theatres, amphitheatres, triumphal arches, monumental columns, temples, palaces, baths, statues, and paintings, are intermingled with volcanoes, subterranean cities, caverns, lakes, and mountains.

But while we tread with solemn steps amidst the wrecks of her departed grandeur, and reflect on what Italy once was, let us not forget what she still is. To this Mr. *Eustace* refers when he says. "But to compensate the defect, if there exist any in this respect, modern Italy possesses other edifices perhaps of equal beauty, and undoubtedly of greater utility, and of far superior interest. I allude to her abbeys and to her hospitals, the former lift their venerable towers amidst her forests and her solitudes, sometimes replace the temples that crowned the pinnacles of her mountains, and open in the loneliness of the desert scenes of architecture, of literary opulence, and of religious pomp, which, contrasted with the savage features of nature around, seem almost to border on the wonders of enchantment. The latter encircle her cities with lines of palaces, superior in size and decorations to the mansions of their sovereigns, and expand halls, libraries, fountains, and gardens, for the reception, not of an idle populace, nor of parasites and buffoons,

nor of actors and declaimers, but of the sick and the suffering, of the ignorant and the forlorn, of all that feel misery and want relief. If to these edifices we superadd colleges, seminaries, and literary establishments, all institutions unknown to antiquity, and almost all of considerable magnitude and splendour, spread at present over the face of the country in every direction, and embellishing in a greater or less degree every town from *Susa* to *Rheggio*, we may perhaps no longer hesitate to allow to modern Italy the praise even of superior embellishment. But when with these edifices we connect the object for which they were erected, and the moral effects which they are intended to produce; when we contemplate the consequent propagation of religion and decency, of literature and humanity, the prospect still brightens upon us, and modern Italy rises before us, encircled with a lustre that eclipses all the glories even of the Augustan age."

The same elegant author thus passes from the comparison of the country to that of the inhabitants. It may, however, be remarked, that most of his observations refer to "ages gone by."—Mr. *Eustace* was a zealous but liberal Catholic, and an enthusiastical admirer of all that is ancient or classical.

"The modern Italians, by their wisdom, have acquired a more permanent, and perhaps a more glorious dominion over the opinions of mankind, and still govern the world by their religion and their taste, by their arts and their sciences. To the ancient Italians we owe the plainest, the noblest, the most majestic language ever spoken; to the modern we are indebted for the softest and sweetest dialect which human lips ever uttered. The ancient Romans raised the Pantheon, the modern erected the Vatican. The former boast of the age of Augustus, the latter glory in that of Leo. The former have given us Virgil, the latter Tasso. In which of these respects are the modern Italians unworthy of their ancestors."

After a still further comparison, the same author remarks. "It may perhaps be asked, why, with the same talents and with the same virtues, the Italians do not now make the same figure in the history of the world as their ancestors? The answer appears to me obvious. To induce man to shake off his natural indolence, and exert all his energies, either urgent pressure, or glorious rewards are necessary. Now, the ancient Romans fought first for their safety and very existence, and afterwards, when imminent danger was removed from their city, they entered the lists of fame, and combated for the empire of the universe. In both cases, all their powers and all their virtues were called into action, either to save their country or to crown it with immortal glory. The modern Italian has neither of these motives to arouse his natural magnanimity. His person, his property, his city even, is safe, whatever may be the issue of the contests of which his country is either the object or the theatre. Whether the French or Russians, the Germans or Spaniards, gain the victory, the Italian is doomed still to bear a foreign yoke. His inactivity and indifference in the struggle are therefore excusable, because prudent. *Quid interest cui serviam, clitellas dum portem meas.* As for glory and empire, to them, Italy divided and subdivided as she is, and kept in a state of political palsy by the intrigues or the preponderating power of her trans-alpine enemies, to them Italy can have no pretension. But, if some happy combination of events should deliver her from foreign influence and unite her many states once more under one head, or at least in one common cause, and that the cause of independence and of liberty, then Europe might confidently expect to see the spirit and glory of Rome again revive, and the valour and perseverance which subdued the Gauls, and routed the Cimbri, and Teutones, again displayed in chastising the insolence of the French, and in checking the incursions of the Germans. She would even rise higher, and assuming the character, which her situation, her fertility, and her population naturally give her, of the empire of the south, she might unite with Great Britain, the rival and the

enemy of France, in restoring and in supporting that equilibrium of power so essential to the freedom and to the happiness of Europe. But whether Italy be destined to re-assume her honours, and to enjoy once more an age of glory and of empire; or whether she has exhausted her portion of felicity, and is doomed to a state of hopeless bondage and dependence, it is not for man to discover. In the mean time, deprived of that sceptre of empire, which Heaven once entrusted to her hands to humble the pride of tyrants, and to protect oppressed nations, to portion out kingdoms and provinces, and to sway at pleasure the dominion of the universe, she has assumed the milder but more useful sovereignty of the intellectual world, and reigns the acknowledged queen of poetry and of music, of painting and of architecture, the parent of all the sciences that enlighten, and all the arts that embellish human life."

The following brief sketch of the modern Italian character must terminate the present view.—“The Italians are a singular mixture of eagerness and cunning, of mildness and violence, of superstition and of irreligion. They are vehement in their gestures on trivial occasions; but at the very time that they appear absorbed in the violence of passion, they are full of duplicity, and grow cool in a moment, if they see any advantage in doing so. They affect to speak with great mildness, and appearance of regard even to an absolute stranger, and yet suddenly break out into violent fits of passion. They will talk lightly of the church and turn their priests into ridicule; but, after uttering an irreligious jest, a secret awe seems to drive them to the altar, where they kneel and receive the sacrament from the very hand which they have ridiculed. No people that I have ever yet seen descend so low to excite compassion. If they gain their object by any means they are satisfied, and in order to effect this, they fawn upon strangers in a manner that quickly becomes tedious and soon disgusting. They feel with greater accuracy than they reason, and are more apt to mislead themselves when they take time to deliberate, than when they act from the impulse of the moment. The mildness of their climate inspires them with cheerfulness, and they give themselves up with ardour to every pleasure, even the most trifling; yet their looks are composed and even grave, and their walk has nothing in it which indicates levity.

“In the observance of the matrimonial engagement, no people can be more lax, nor is there any country where jealousy is so little known, nor, indeed, where it would be so useless. When instances of private restraint or rebuke are strengthened by a considerable decency of general manners, that restraint or rebuke may be of some avail. But what benefit can arise from it, when the whole mass is corrupted, when the cottage of the peasant is contaminated, and when the most flagrant instances of disregard to female honour are to be sought for among the nobility, and upon the throne. Italian jealousy scarcely now exists, except upon the stage, or in old romances.”—*Semple*.

“The Italian is neither vindictive nor cruel; he is hasty and passionate. His temper, like his climate, habitually gay and serene, is sometimes agitated by black and tremendous storms, and these storms, though transient, often produce the most lamentable catastrophes. An unexpected insult, a hasty word, occasions a quarrel; both parties lose their temper; daggers are drawn, and a mortal blow is given: the whole transaction is over so soon that the bye-standers have scarce time to notice, much less to prevent it.”—*Eustace*.

EXTRACTS FROM THE ACT OF CONGRESS,

RELATIVE TO ITALY.

From the general Treaty, Signed at Vienna, 9th June, 1815.

ARTICLE XCVIII.—“ His Royal Highness the Archduke Francis d’Este, his heirs and successors, shall possess, in full sovereignty, the Duchies of Modena, Reggio, and Mirandola, such as they existed at the signature of the treaty of Campo Formio.

“ The Archduchess Maria Beatrice d’Este, her heirs and successors, shall possess, in full sovereignty and property, the Duchy of Massa, and the principality of Carrara, as well as the Imperial Fiefs in Lunigiana.

“ The latter may be applied to the purpose of exchanges, or other arrangements made by common consent, and according to mutual convenience, with His Imperial Highness the Grand Duke of Tuscany.

“ The rights of succession and reversion, established in the branches of the Archducal House of Austria, relative to the Duchies of Modena, Reggio, and Mirandola, and the principalities of Massa and Carrara, are preserved.”

ARTICLE XCIX.—“ Her Majesty, the Empress Maria Louisa, shall possess, in full property and sovereignty, the Duchies of Parma, Placentia, and Guastalla, with the exception of the districts lying within the states of His Imperial and Royal Apostolic Majesty, on the left bank of the Po.

“ The reversion of these countries shall be regulated by common consent, with the Courts of Austria, Russia, France, Spain, England, and Prussia; due regard being had to the rights of reversion of the House of Austria, and of His Majesty the King of Sardinia, to the said countries.”

ARTICLE C.—“ His Imperial Highness, the Archduke Ferdinand of Austria, is re-established, himself, his heirs and successors, in all the rights of Sovereignty and property, in the Grand Duchy of Tuscany and its dependencies, which he possessed previous to the treaty of Luneville.

“ The stipulations of the second article of the treaty of Vienna, of the 3d of October, 1735, between the Emperor Charles VI. and the King of France, to which the other Powers acceded, are fully renewed in favour of His Imperial Highness and his descendants, as well as the guarantees resulting from those stipulations.

“ There shall be likewise united to the said Grand Duchy, to be possessed in full property and sovereignty by the Grand Duke Ferdinand, his heirs and descendants :

“ 1. The state of the Presidii.

“ 2. That part of the Island of Elba and its appurtenances, which were under the *suzzeraineté* of His Majesty the King of the two Sicilies, before the year 1801.

“ 3. The *suzzeraineté* and sovereignty of the principality of Piombino and its dependencies.

“ Prince Ludovisi Buoncompagni shall retain, for himself and his legitimate successors, all the property which his family possessed in the principality of Piombino, and in the Island of Elba and its dependencies, previously to the occupation of those countries by the French troops in 1799, together with the mines, foundries, and salt mines.

“ The Prince Ludovisi shall likewise preserve his right of fishery, and enjoy an entire exemption from duties, as well for the exportation of the produce of his mines, foundries, salt mines, and domains, as for the importation of wood and other articles necessary for working the mines. He shall be also indemnified by His Imperial Highness the Grand Duke of Tuscany, for all the re-venues the family of the latter derived from the crown duties, before the year 1801. In case any difficulties should arise in the valuation of this indemnity, the parties concerned shall refer the decision to the Courts of Vienna and Sardinia.

“ 4. The late Imperial Fiefs of Vernio, Montanto, and Monte Santa Maria, lying within the Tuscan states.”

KINGDOM OF SARDINIA.

Name—Situation—Boundaries—Extent—Population—Division and Distribution of the Inhabitants—General Surface—Mountains, Rivers, Lakes—Climate and Seasons—Soil—Culture and Productions—Principal Towns—Manufactures—Commerce—Government—Laws—Army—Revenue—Language—Literature—Arts and Sciences—Manners and Customs.

THE NAME of this kingdom is derived from the large island which forms a part of its present territories, which are both insular and continental. The continental part occupies the north-west portion of Italy, and is bounded by Switzerland on the north ; the Duchies of Milan and Parma on the east ; the Mediterranean on the south ; and France on the west. It stretches about 200 miles from north to south, and 130 from east to west, comprising, with the island above-mentioned, in the lower part of the Mediterranean, a surface of 27,400 English square miles, and a population of 3,994,000 ; or about 145 persons to each square mile.

The King of Sardinia was stripped of all his continental dominions by the French, which were united to their empire, till the Congress of Vienna restored the kingdom to the same extent it had in 1792, with the addition of the States of Genoa, and some other slight changes on the frontiers of France and Switzerland. It now contains the following countries, to which their extent, population, and chief towns, are annexed.

<i>Countries.</i>	<i>Square Miles.</i>	<i>Population.</i>	<i>Chief Towns.</i>	<i>Inhabitants.</i>
Piedmont, with the county of Nice	7,900	1,750,000	TURIN,	85,000
Duchy of Montferrat	900	186,000	Casale,	15,000
Part of the Duchy of Milan	3,300	556,000	Alessandria,	35,000
Territory of the late Republic of Genoa ..	2,300	532,000	Genoa,	80,000
Savoy (not properly included in Italy).. ..	3,800	45,000	Chamberri,	12,000
Island of Sardinia, with the adjacent Isles ..	9,200	520,000	Cagliari,	30,000

Piedmont has long been one of the best-peopled districts in Europe, and has now about 220 persons on each square mile. The territory of the *ci-devant* Republic of Genoa is the most populous, and has nearly 230 inhabitants on each mile. The mountainous Duchy of Savoy is the most thinly peopled of the continental states, and has only about 120 on the same space, while the insular parts of the dominions have not more than 56.

Few countries exhibit a more rich and varied aspect than the continental part of these dominions. Intersected from north to south, by the Maritime Alps, and separated from Switzerland by that stupendous chain, it can scarcely be excelled in all the sublime features of mountain scenery.—The ridge that sweeps round the gulph of Genoa, and joins the Apennines, gives a mountainous character to the southern regions, while all the centre and eastern districts form part of the grand basin of the Po. These compose a vast plain, or more properly, a series of vales

and declivities, all inclining to the bed of that capacious river, and watered by numerous streams which ultimately fall into it. The towering summit of Mont Blanc, which rises to about 15,660 feet above the level of the sea, with Mont Cenis, Mont Viso, and several other lofty peaks, serrate the western chain; while the noble St. Bernard, Mont Rosa, and others of the great Alps, rise majestically on its northern borders.

The principal river of these dominions is the Po, which issues from the eastern slope of the Maritime Alps, passes Turin, winds through the centre of the country, and, flowing to the east, leaves its borders between the Austrian territories and the Duchy of Parma. The *Tanaro*, the *Siara*, and other rivers, fall into the Po, from the south and south-east; while the *Doira*, *Baltea*, the *Sesia*, and the *Tesino*, enter it from the north. The last separates the Austrian from the Sardinian dominions. Most of the lakes in northern Italy are situated between the eastern confines of Sardinia and the top of the Adriatic. *Lago Maggiore*, however, forms a part of the north-west boundary, while that of Geneva stretches along the borders of Switzerland. In this part of the dominions some small lakes are wholly included, but none of them deserve particular description.

Much of the SOIL in the lower parts of these territories is a rich sandy loam, intermixed with tracts of gravel; but the more elevated parts are chiefly composed of rock. In many of the narrow vallies, the CLIMATE is hot; on the hills it is mild, and on the mountains, severe; but in all places, except the marshy plains, it is salubrious. In several of the confined parts the heat of summer is very oppressive; and the annual temperature of Genoa, though in the immediate vicinity of the sea and the mountains, is about 61° of Fahrenheit's thermometer. Agriculture is pursued with success in the lower regions, where all kinds of European grain, with Indian corn and hemp, are produced. Rice is also grown in some of the warmer tracts. The rich pastures in several places feed large herds of cattle. Irrigation is practised to a great extent, and the crops produced by this means in that warm climate are surprising. Fruit is not only abundant but of excellent quality. Oranges, lemons, olives, vines, mulberries, figs, and other southern fruits, are produced of the finest flavour. Silk is a valuable product, and of good quality.

Piedmont, and the adjacent districts on the southern branches of the Alps are rich in MINERALS. They contain gold, silver, and copper. The last is obtained in great abundance in the duchy of Aosta, where the metal is often mixed with antimony, zinc, and arsenic. A vein of cobalt has lately been discovered a little east of Mont Blanc, and plumbago near the baths of Binay. Green porphyry is found on Mont Viso, and various kinds of precious stones in other places. Valuable marbles are also obtained in many parts. MINERAL WATERS are likewise met with, and the baths of Binay are in great repute.

The island, from which the kingdom derives its name, lies much further south, and stretches from about 38°½ to more than 41° of latitude. It presents an intermixture of mountains, plains, and vallies, diversified with wood, rivers, and lakes. The principal ridge of mountains runs nearly parallel to the eastern shore but several groups occupy other districts. The situation, the vicinity of the sea, and the variety of elevation, render the climate mild at all seasons; but the unevenness of the surface causes the water to stagnate in pools and marshes, which impart a pestilential effluvia to the air in hot weather. The soil of the vallies is rich, but there are many downs and tracts covered with rocks. Agriculture is in a backward state, yet wheat and other kinds of grain are grown. The vine is extensively cultivated, with oranges, lemons, and other fruits of the southern countries.

Domestic animals are numerous. The horses are handsome, hardy, and swift, and racing is a favourite diversion. There is also a very small active breed of wild

horses that range in the woods and uncultivated parts of the country. The cattle are small, and the sheep afford excellent mutton. Some of them have four horns, and others six. Goats are also common. Wild boars are numerous, as well as a small species of stag, which, with the *mouflon*, or wild sheep, frequent the solitary parts of the mountains.

Sardinia is rich in *minerals*. Silver, iron, lead, mercury, and antimony, are found. Coal has been obtained, with various kinds of marble, alabaster, rock crystal, quartz, agates, and other precious stones, in addition to alum, nitre, and fuller's earth.

TURIN is the capital of the Sardinian monarchy. It stands on the delightful plains of Piedmont, at the confluence of the Doira and the Po; but the atmosphere is often obscured by fogs. It was the ancient *Taurini*, and was destroyed by Hannibal when he invaded Italy. Turin is a handsome town, the more modern parts of which are built on a uniform plan, adopted by government for the improvement of the city. It is the see of an archbishop, and contains a great number of churches and chapels, with hospitals and other public buildings. The two royal palaces are handsome structures. They are connected together by a gallery, and terminate a noble street, adorned on each side with piazzas. The fortifications are kept in good order, and there are spacious walks on the ramparts. The citadel is a regular pentagon, and very strong. The principal manufacture of Turin is silk, which occupies numbers of the inhabitants, who amount to about 85,000.

GENOA has long been a flourishing maritime city, and the capital of the celebrated republic of the same name, which was transferred to Sardinia by the Congress of Vienna, in 1815. It stands at the top of the Gulph of Genoa, on the acclivity of a hill, screened by high mountains, and overlooks the sea. The massy white houses, contrasted with the naked sterility of the Apennines, give to the *tout ensemble* a romantic aspect. The streets are formed of a succession of terraces, but they are narrow, and the houses, though large, are very crowded. The three principal streets, in which the nobles and chief citizens reside, are regular and spacious, not only displaying the beauties of architecture, but also those of painting and sculpture. Genoa has many public edifices. It is the see of an archbishop, and has numerous churches, chapels, and convents. The cathedral, and several of the churches, are master-pieces of architecture, and are extremely rich in interior ornaments. Genoa is surrounded by a double wall. The inner one, which encompasses the town, is about six miles in circuit; and the outer, which includes several hills that command the town, is about double that length.

Commerce has long flourished at Genoa. Its harbour is of a semicircular form, enclosed by two strong moles, with an entrance of 350 fathoms in width, and water sufficient to admit ships of the line. Its exports are the produce of the adjacent country, particularly oil, and its own manufactures, which are chiefly silks, damasks, and velvets. The principal imports are corn and silk from Sicily, naval stores from the Baltic, linens from Germany, with tin, lead, cottons, and hardware, from England. The population is about 80,000.

NICE stands on the shore of the Mediterranean, at the south-west extremity of the continental part of the Sardinian territories. It is a handsome town at the foot of an amphitheatre of hills, covered with villas, gardens, and groves of orange-trees. The Alps bound the prospect on one side, and the Mediterranean on the other. In the modern parts of the town the houses are neatly built, generally painted in fresco, and surrounded with gardens, in which oranges and lemons grow in profusion. Nice has two handsome squares, and a good cathedral. Its public baths, coffee-houses, library, delightful walks, salubrity of climate, and

good society, all conspire to make it a place of great resort. Its population is about 18,500.

ALESSANDRIA is a large town, with a strong citadel, situated on the Tenaro, and was lately the capital of the French department of the Marengo. It is an episcopal see, and has a good cathedral, with a great number of churches and monasteries, and about 35,000 inhabitants. **VEREILLE** and **CASALE**, both on the south bank of the Po, are large towns; and **MARENGO**, near the eastern confines of the country, has been rendered memorable from the victory gained by Buonaparte, which led to the peace of Luneville.

CAGLIARI, situated on a gulf of the same name, on the south-eastern shore of the Island of Sardinia, is a large commercial town, with a good harbour, and a population of about 30,000 people. It is supposed to have been built by the Carthaginians, and was at first called *Caralis*. Its style of building is unlike that of a capital, except that there are numerous churches and convents. It carries on a good traffic in wine, oil, and salt, which is made in large quantities on the neighbouring shores. **Sassari**, on the northern part, has nearly 12,000 persons. **Aristano**, on the eastern coast, has a good harbour, and about 6000 inhabitants; while **Iglesias**, on the south-west, has nearly an equal population.

The principal articles, both of **MANUFACTURES** and **COMMERCE**, have already been mentioned in the account of the chief Towns; for the inhabitants devote themselves almost exclusively to the culture of the soil, the working of mines, the preparation of the metals, the raising of silk, and the making of wine. Their commerce, therefore, consists in the exchange of those for such products and manufactured articles of other countries as their necessities require.

The **GOVERNMENT** of the Sardinian States is an absolute monarchy, the King alone, with the advice of his Council of State, having a right to make laws and levy taxes; but the State of Genoa is still governed by its own Laws, and has its senate, its supreme tribunal, and its provincial councils; while the Genoese are equally eligible to all offices in the Sardinian government with its other subjects. For the administration of the **LAWS**, supreme Tribunals are established at Turin, Savoy, Nice, and Cagliari, which have the title of Senates. The regular **ARMY** does not, at present, exceed 20,000, and the **REVENUE** has lately been estimated at two millions. In reference to Political Importance, Sardinia can only be considered among the inferior States.

With regard to **RELIGION** and Ecclesiastical Geography, the remarks already offered, in the general View of Italy, are applicable. The Universities of Turin and Genoa present the means of education to the higher classes, but liberal knowledge is not widely diffused. The Languages spoken in the Sardinian territories are dialects of the Italian, but differ considerably from that which is used by the well-educated in other parts of Italy. The Language of Genoa might almost be taken for a distinct tongue, and this again differs from that spoken in Piedmont and the Milanese. The **ARTS** have made a greater progress, and to this the splendid rites, and profuse ornaments of the Catholic Church have, doubtless, contributed.

Respecting the two nations that form the great body of the Sardinian population on the continent, Mr. *Galiffe* observes, "The Piedmontese are a cunning, sharp, and passionate race. A young man had lately been executed at Suza for the murder of his mother! and in that country justice is frequently obliged to dip her hands in the blood of offenders. The Savoyards, on the other hand, are good-natured, gentle, plain in their manners, simple in their affections, faithful, and honest. Improvidence is a striking feature in their national character, and is as strong in the nobleman as the peasant. They are always in debt; and I really should not think it possible to name three persons among a hundred, taken at ran

dom, whose property would be free from incumbrance. They are unthinkingly liberal and generous; yet they cannot bring themselves to pay what they owe! If you happen to have a claim for five pounds on a Savoyard, he will, very probably, spend a *hundred* in giving you and your whole family a hearty, hospitable reception, for months, but the poor *five* will not be forthcoming after all. The laws, with respect to debtors, are the worst in Europe; they are framed in such a manner as effectually to prevent strangers from lending pecuniary assistance to the natives, even on the best landed security. On the whole, this country is very far behind the rest of Europe, and seems to belong to another century, or to another quarter of the globe."

The insular people of this kingdom are thus briefly sketched by Mr. Galt.

"The inhabitants of Sardinia (I speak of the common people) are yet scarcely above the negative point of civilization; perhaps it would be more correct to say, that they appear to have sunk a certain way back into barbarism. They wear, indeed, linen shirts, fastened at the collar by a pair of silver buttons, like hawks' bills; but their upper dress of shaggy goat skins is in the pure savage style. A few have gone one step nearer to perfectibility, and actually do wear tanned leather coats, made somewhat in the fashion of the armour worn in Europe in the fifteenth century. With such durable habiliments, it is easy to conceive that they do not require much assistance from the manufactures of foreign countries."

EXTRACTS FROM THE ACT OF CONGRESS

RELATIVE TO SARDINIA,

From the General Treaty, Signed at Vienna, 9th June, 1815.

ARTICLE LXXXV.—"The frontiers of the States of His Majesty the King of Sardinia shall be:

"On the side of France, such as they were on the 1st of January, 1792, with the exception of the changes effected by the Treaty of Paris, of 30th May, 1814.

"On the side of the Helvetic Confederation, such as they existed on the 1st of January, 1792, with the exception of the change produced by the cession in favour of the Canton of Genoa, as specified by the 80th Article of the present Act.

"On the side of the States of His Majesty the Emperor of Austria, such as they existed on the 1st of January, 1792; and the Convention concluded between their Majesties the Empress Maria Theresa, and the King of Sardinia, on the 4th of October, 1751, shall be reciprocally confirmed in all its stipulations.

"On the side of the States of Parma and Placentia, the frontier, as far as it concerns the ancient States of the King of Sardinia, shall continue to be the same as they were on the 1st of January, 1792.

"The borders of the former States of Genoa, and of the countries called Imperial Fiefs, united to the States of His Majesty the King of Sardinia, according to the Articles, shall be the same as those which, on the 1st of January, 1792, separated those countries from the States of Parma and Placentia, and from those of Tuscany and Massa.

"The Island of Capraja, having belonged to the ancient Republic of Genoa, is included in the cession of the States of Genoa, to His Majesty the King of Sardinia.

ARTICLE LXXXVI.—"The States which constituted the former Republic of Genoa, are united in perpetuity to those of His Majesty the King of Sardinia; to be, like the latter, possessed by him in full sovereignty and hereditary property; and to descend, in the male line, in the order of primogeniture, to the two branches of his House, viz. the Royal branch, and the branch of Savoy Carignan."

ARTICLE LXXXVII.—"The King of Sardinia shall add to his present titles, that of Duke of Genoa."

STATES OF THE CHURCH.

Name—Situation—Boundaries—Extent—Population—Division and Distribution of the Inhabitants—General Surface—Mountains—Rivers—Lakes—Climate and Seasons—Soil—Culture—Products—Principal Towns—Manufactures—Commerce—Government—Laws—Army—Revenue—Language—Literature—Arts and Sciences—Manners and Customs.

THE States of the Church derive their NAME from being under the temporal dominion of the *Pope*. They occupy the central parts of Italy, extending from the southern branch of the Po to below Terracina, a distance of about 260 English miles. In the middle they extend from the Mediterranean to the Adriatic, and are about 120 miles broad; but the Kingdom of Naples diminishes their breadth by nearly one half on the south, and the Grand Duchy of Tuscany reduces it to less than that on the north. The Papal dominions are, therefore, BOUNDED by the Mediterranean on the south; the Neapolitan Territories on the south-east, the Adriatic on the north-east; the Grand Duchy of Tuscany, with the states of Modena on the north-west, and the Austrian dominions on the north. The whole superficial EXTENT is about 14,500 English square miles, and the population 2,346,000; which is nearly 162 persons to each square mile.

By the arrangements of the Congress; the Marches, with Camerino, and their dependencies, as well as the Duchy of Benevento, and the Principality of Pontecorvo, were restored to the Holy See; who also resumed possession of the Legations of Ravenna, Bologna, and Ferrara, with the exception of that part of Ferrara on the left bank of the Po. The Pope has also the right of garrisoning Ferrara and Commachio. According to these stipulations the Papal dominions now include the following provinces, to which their chief towns are annexed.

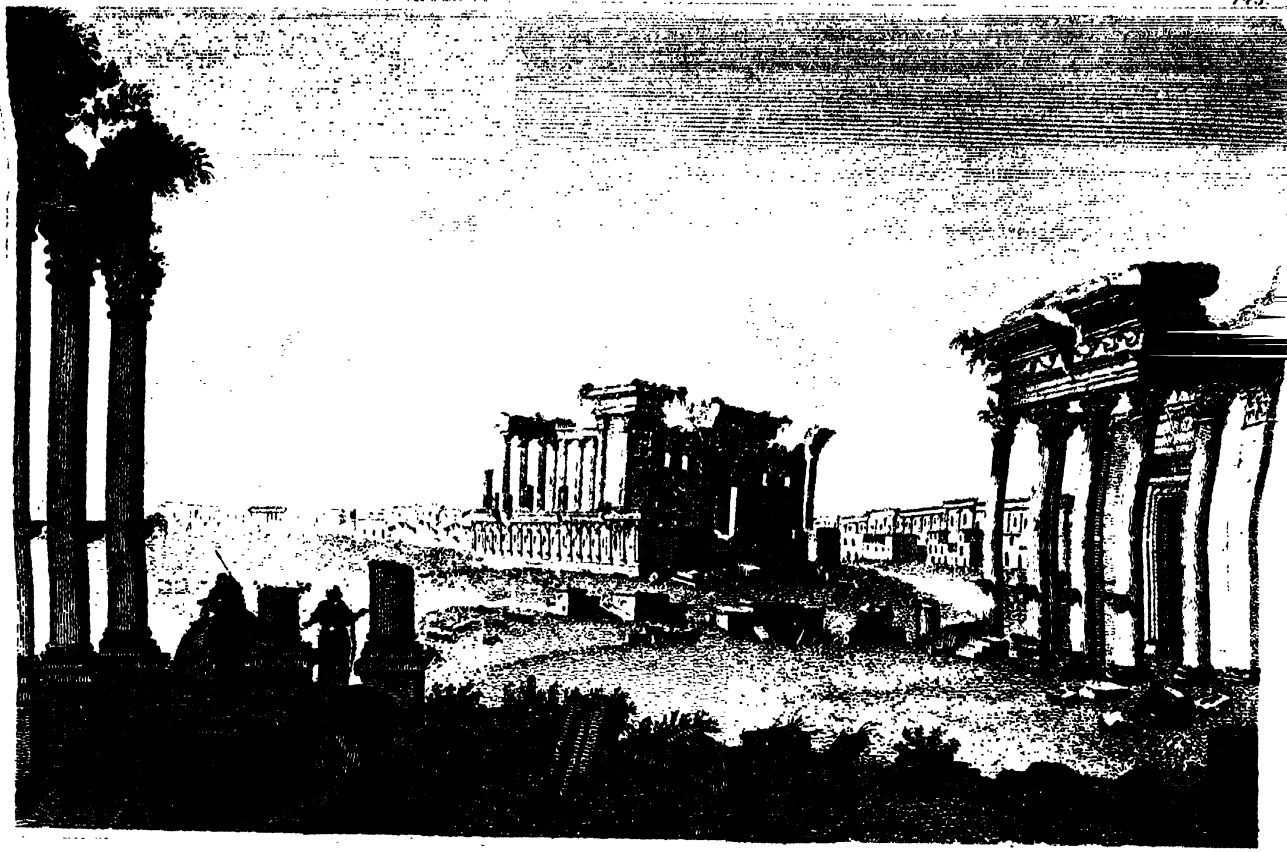
<i>Provinces.</i>		<i>Chief Towns.</i>		<i>Inhabitants.</i>
The Legation of	The Marshes	Ancona	....	20,000
	Ravenna	Ravenna	...	15,000
	Bologna	Bologna	....	70,000
	Ferrara	Ferrara	....	24,000
The Duchy of.....	Urbino	Urbino	....
	Perugiano	Perugia	....	10,000
	Orvietano	Orvieto	....	7,000
	Spoletto	Spoletto	....	6,000
The Patrimony of	St. Peter	Civita Vecchia	....	9,000
	Sabina	Magliano	....	5,000
The Campagna	de Roma	ROME	....	153,000
The Principalities of Benevento and Pontecorvo		Benevento	....	14,000

The Apennines intersect the Papal Territories, and form many beautiful and picturesque scenes; and on each side of these mountains are delightful vallies and

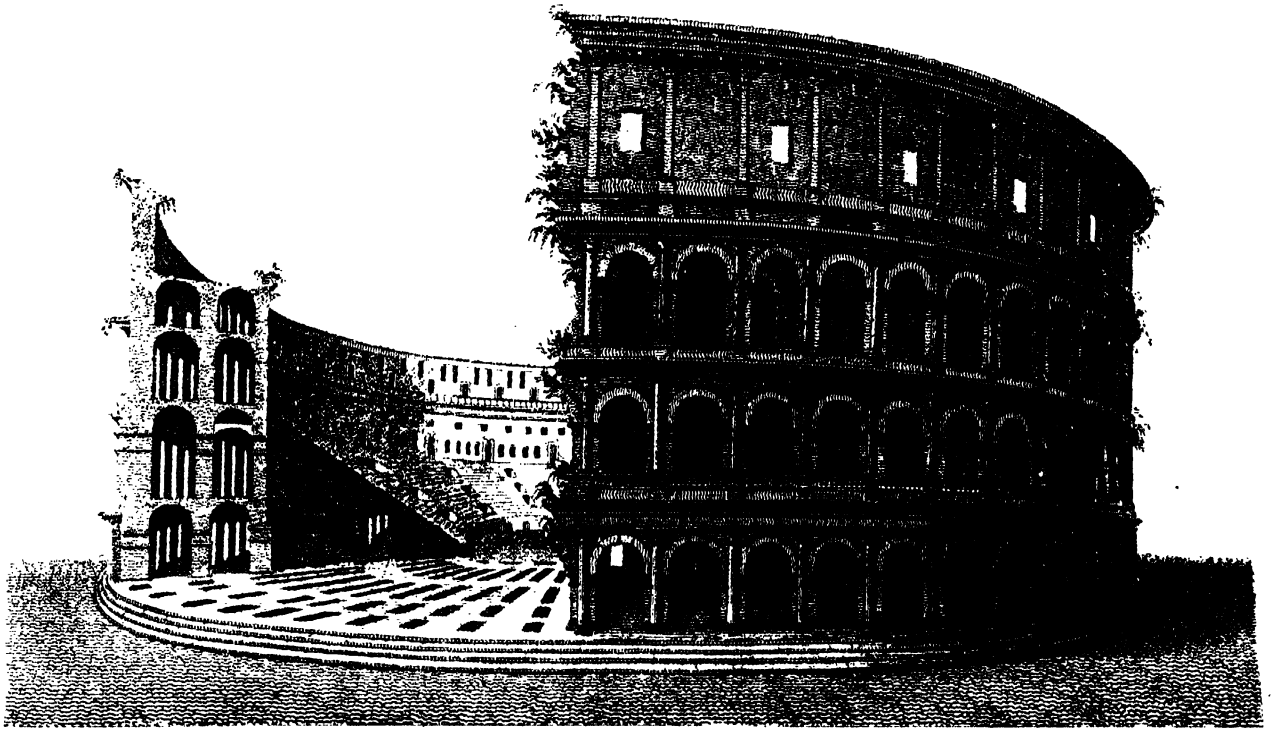
luxuriant plains. The principal river is the **TIBER**, so celebrated in the annals of ancient fame. It rises from the Apennines near the eastern confines of Tuscany, and flows from north to south, till it passes Rome, and enters the sea below that city. As it traverses the imperial city, a late traveller observes—"though choked and shallowed by the *débris* of its banks, and the crumbling edifices of successive centuries, broad, deep, and unruffled by the ruins which it conceals, it is still the yellow muddy Tiber of the Augustan age, finely corresponding in tone and colour with the dusky ruins that nod on its shores." It receives the *Chiano* from the west, with the *Nera* and the *Velino* from the east and south-east. The rivers of central Italy, however, are more interesting from the classical associations with which they are connected than from any other circumstance. Some of them have beautiful water-falls. The principal lakes are those of *Perugia* and *Bolsena*, which are two of the largest, but they are less romantic than those amid the southern declivities of the Alps. Several parts of the lower grounds are marshy, from which pestilential vapours are exhaled by the powerful beams of the sun during summer and autumn. The most unhealthy district is called the *Marremma*, and extends from the south of Leghorn through the whole coast of Tuscany and the Papal States. Its length is about 200 miles, and its greatest breadth, which is in the Campagna di Roma, nearly 40 miles. At other places the climate is delightful and salubrious. The heats of summer are tempered by the breezes from the sea and the Apennines, while from the southern situation of the country winter is not severe. Snow seldom falls, and never lies long, except on the higher summits of the Apennines, where it sometimes remains for several months.

With all the advantages of soil and climate, AGRICULTURE is so little attended to, or so ill understood, that the country does not produce sufficient for the supply of its inhabitants. All the implements of husbandry are of the rudest description, tillage imperfectly performed, and the corn usually trodden out by oxen. In the northern parts of these states, particularly near the borders of Tuscany, various kinds of grain are grown; in most of the other parts, all the delicious fruits of the Peninsula are produced in great perfection. Silk and cotton are cultivated in some districts; and oil of an excellent quality is made in others. The *Marremma* is chiefly in a state of natural pasturage, and stocked with herds of black cattle and buffaloes. Few horses are used, mules being more common, and better adapted to the rough mountainous roads. Oxen are principally employed in the operations of agriculture. Sheep and goats are kept in many places. The lynx, the wild-boar, the stag, the wolf, and the tiger-cat, are found in the Apennines. Most of the rivers and coasts abound with fish; and reptiles of various kinds are numerous in many of the low marshy tracts towards the south.

The capital of these states, and of all Italy, is the ancient, the renowned, the fallen, **ROME**! Founded on the banks of the Tiber, about 750 years before the Christian era, enlarged by temperance and guarded by valour, it gradually extended its influence over the various states of Italy. This influence subsequently passed the Alps and the sea, till Europe, with part of Asia and Africa, acknowledged its metropolitan sway. But having attained the highest pinnacle in the temple of fame, and had the riches of the world wafted into its lap by every breeze, its citizens became enervated by luxury, and no longer retaining the powers by which it had been raised to this envied station, Rome fell into the hands of those who did possess them. It now ranks among the second-rate capitals of Europe, and has not more than 153,000 inhabitants; but it is still unrivalled in the relics of ancient grandeur, and in the treasures of modern art. Two of its chief supports, the influence of the Pope, and the resort of devotees, have lately declined; but it will still be visited by the artist, the amateur, and the virtuoso. Many of its portable treasures were



A General View of Palmyra



carried to Paris by the rapacity of French invaders, but most of them have been returned since the peace, and "it still offers to the admirers of art, and the votaries of learning, objects which will not suffer it to be passed by in neglect. Its associations with so many great characters and remarkable events must ever prove deeply impressive on the sensible mind."

Rome now exhibits a strange mixture of magnificent and interesting, with common, and even mean, objects. Churches, palaces, fountains, and the noblest remains of antiquity, are spread over a wide space. The metropolitan church of St. Peter is the most superb of modern edifices, and is supposed to excel all the admired structures of antiquity. It is built entirely of marble in the form of a cross, 730 feet long, and 520 broad. The height from the pavement to the top of the cross, which crowns the cupola, is 450 feet. The Pantheon is the most perfect of the Roman temples. It is a circular building about 150 feet high, without windows, being lighted by an opening at the top. This temple, which was originally built in honour of all the gods, was, at its conversion into a Catholic church, dedicated to St. Mary, and all the Martyrs and Saints. Dr. Moore observes, "In spite of the depredations it has sustained from Goths, Vandals, and Popes, it still remains a beautiful monument of Roman taste. The pavillion of the great altar, which stands under the cupola of St. Peter's, and the four wreathed pillars of Corinthian brass, which support it, were formed out of the spoils of the Pantheon, which, after all, and with the weight of 1800 years upon its head, has still a probability of outliving its proud capacious rival." If the Pantheon be the most entire, the Coliseum is the most stupendous monument of antiquity. Only about half the external circuit remains, but this gives an impressive idea of the original structure, which was capable of accommodating at least 80,000 persons. (*See the annexed Plate.*)

The Pope has three splendid Palaces, the principal of which is the Vatican, situated near St. Peter's, which covers a space 1200 feet long, and 1000 broad, and contains more than 4400 apartments. The Library is the most complete in the world, and is particularly rich in manuscripts of all nations and ages. Placed on the tower of the *capitol*, and looking towards the east, the eye ranges freely over "the remains of that city, and those trophies which emperors and kings, through many ages conquerors of the world, had looked upon with exultation, and accounted substantial monuments of their glory." Turning towards the west, the modern city rises in view. The eye is immediately arrested by the Dome of St. Peter's and the Vatican, with all its treasures of art and learning, the former reigning the sovereign of modern, as the Coliseum does of ancient, Rome. From this point Mr. *Eustace* took his survey of the fallen grandeur of this ancient mistress of the world, and observes, "that view was no other than ancient and modern Rome. Behind us, the modern town lay extended over the Campus Martius, and spreading along the banks of the Tiber, formed a curve round the base of the Capitol. Before us, scattered in vast black shapeless masses, over the seven hills, and through the intervening vallies, arose the ruins of the ancient city. They stood desolate, amidst solitude and silence, with groves of funeral cypress waving over them; the awful monuments, not of individuals, but of generations; not of men, but of empires!"

"A distant view of Egina and Megara, of the Piræus and of Corinth, melted the soul of an ancient Roman, for a while suspended his private sorrows, and absorbed his sense of personal affliction, in a more expansive and generous compassion for the fate of cities and of states. What, then, must be the emotions of the traveller, who beholds, extended in disordered heaps before him, the disjointed 'carcase of fallen Rome,' once the abode of the gods, the grand receptacle of nations, 'the common asylum of mankind.' The contemplation was indeed awful and impressive. Immediately under our eyes, and at the foot of the Capitol, lay the Forum,

lined with solitary columns, and commencing and terminating in a triumphal arch. Beyond, and just before us, rose the Palatine Mount, encumbered with the substructions of the Imperial Palace, and of the Temple of Apollo, and still farther on, ascended the Celian Mount, with the Temple of Faunus on its summit. On the right was the Aventine, spotted with heaps of stone, swelling amidst its lonely vineyards. To the left the Esquiline, with its scattered tombs and tottèring aqueducts, and in the same line the Virinal and Quirinal, terminating in the once-magnificent baths of Dioclesian. The baths of Antoninus, the temple of Minerva, and many a venerable fabric, bearing on its shattered form the traces of the iron hand of destruction, as well as the furrows of age, lay scattered up and down the vast field; while the superb temple of St. John Lateran, Santa Maria Maggiore, and Santa Croce, arose with their pointed obelisks, majestic but solitary monuments; amidst the extensive waste of time and desolation. The ancient walls, a vast circumference, formed a frame of venerable aspect, well adapted to this picture of ruin, the cemetery of ages, ‘*Romani bustum populi.*’”—*Eustace*.

BOLOGNA, the ancient *Bononia*, is the second city in size and population in the Papal dominions. It stands in a rich valley at the foot of the Apennines, is about six Italian miles in circumference, and contains a population of 70,000 individuals, with numerous churches and other public buildings. Bologna is a well-built town, and has long held a conspicuous place both in the political and literary history of Italy. It has always been the residence of many illustrious families, as well as the seat of a renowned university, which first drew the attention of Europe to the Roman law, when she awoke from the lethargy of the middle ages. This university was much improved during the period it was possessed by the French; and the Spaniards, Germans, Hungarians, Illyrians, Flemish, Piedmontese, and other nations, have now their separate colleges. It was there, too, that the Carracci established their celebrated school, and restored a correct taste in painting, after Michael, Angelo and Raphael. Bologna has also a celebrated Academy of Sciences. It is a place of greater industry than many other Italian towns, having manufactures of cloth, silk stockings, satins, damasks, velvets, crape, linen, gauze, and taffeta, and carries on a good trade with Venice, Leghorn, and Genoa.

FERRARA is the capital of the province of that name, and the see of an archbishop. It stands on a marshy plain near a branch of the Po, and is about four miles in circuit. The streets are good, and the city contains many handsome buildings, with a great number of churches and convents. It is still the seat of a university, and has given birth to many eminent men. The houses where Ariosto and Tasso resided are yet shown. The population is about 24,000.

ANCONA is built on a point of land projecting into the Gulf of Venice, and derives its name from the Greek word denoting its situation. Nature had formed an excellent harbour, which was improved by the emperor Trajan, and subsequently by Pope Benedict XIV. It was declared a free port by Clement XII. in 1732, and foreigners of all nations and religions were admitted to the civil rights of citizens. Their commercial prosperity increased so much that Ancona became a rival to Venice. European goods of all kinds are still carried to Ancona, and exchanged for the productions of the south of Germany, the east of Italy, Hungary, Turkey, and Bosnia. This extended intercourse has rendered the inhabitants of Ancona more intelligent and industrious than in most other towns of Italy. Their number is about 18,000.

RAVENNA is a city of ancient fame, and intimately connected with the leading circumstances in the eventful history of Italy. It stands near the shore, towards the upper part of the Adriatic; and, in the time of the Lower empire, had a good port, merely separated from the city by the *via Caesaris*. But, though the Lower

still occupies the same site, as evinced by the remains of its ancient monuments, it is now three miles from the sea. This loss of its port has caused Ravenna to decline, and, like Ferrara, it has now a deserted aspect, and is only interesting from its former renown, and the relics of its ancient grandeur. It was established as a Roman colony by Augustus; Tiberius improved it; Honorius made it his residence; and Theodoric, king of the Ostrogoths, fixed there the seat of his empire, and beautified it with several public buildings. The chief relics of its former splendour, are the ruins of the palace of Theodoric, and the *Porta Aurea*, which was a magnificent marble gate, erected by the Romans. The cathedral is a noble modern edifice, having its nave supported by columns of Grecian marble. Ravenna has given birth to several eminent men, and contains the tomb of *Dante*. It is the see of an archbishop, and has a population of about 15,000 people.

RIMINI is a large town near the same coast, a few miles south of Ravenna. Like that city, it was formerly a port of the Adriatic, but the sea has receded, and left the town a mile and a half from its shore. Rimini is extensive, but its population has declined, and is supposed not to exceed 12,000. It has several good squares, and in the market-place stands a pedestal, from which Cæsar is said to have harangued his army after the passage of the Rubicon. The cathedral, and several of the churches, are ornamented with beautiful marble, obtained from its ancient pier; and at the entrance, by the road from Pesaro, stands a celebrated triumphal arch of Augustus, adorned with Corinthian columns, and considered as one of the most perfect now extant.

FAENZA is noted for its manufactures of linen and fine stone ware; and has a population of about 15,000 individuals. PESARO is also a large town, with nearly 10,000 inhabitants.

Scarcely any country manifests less industry than the Papal States. Few manufactures are carried on except those already mentioned; while commerce is principally in the hands of foreigners, and foreign vessels are chiefly employed. The Government approximates to absolute monarchy. The College of Cardinals constitutes the Senate, and a Cardinal Chancellor presides over each department into which the government is divided. The Civil Laws of Rome, which are founded upon the old Roman laws, so much celebrated, are those followed in the Papal states; yet law-suits are extremely tedious. The Criminal Laws are lenient, and an execution rarely takes place. This, however, does not arise from the superior morality of the people, but either from the mildness of the laws, or the imperfection of their execution. The ARMY, maintained by the Roman States, does not exceed 4000; and the REVENUE is less than one million. With such feeble powers, joined to recent experience, the POLITICAL IMPORTANCE need not be pointed out.

As the MANNERS and CHARACTER of the modern Romans are distinct from the generality of the Italians, the following account is extracted from Mr. *Galiffé's* late work.

"A modern Roman is, indeed, a singular being. Mr. Edward Banks described them by one of the best comparisons imaginable. He said they put him in mind of impressions of engravings from worn out plates. This is exactly true; they seem to be but half-finished; and in most parts so faintly portrayed, that you cannot conceive why nature perseveres in striking off more copies of them. Wherever the strokes are deep and strong, you may be sure there is a blot.

"The Romans are a sullen, pale, spiritless, morose people. They hardly ever speak except to beg alms, which, when offered, they absolutely tear from the giver, without taking the trouble to thank him for them, and without showing the least satisfaction at having obtained them. They are not at all like the Italians we had previously seen; in fact, they are like no other living beings. The whole nation

seems tired of its existence, and waiting for the sleep of death. Walking, seeing, hearing—every act, in short, seems to be a painful exertion of an exhausted mind and body. I never saw one of them smile. I am now speaking of the native Romans of the lower classes, not of the temporary inhabitants of Rome, who come from various districts far and near, to gain their livelihood in the city ; nor am I speaking of the country people in the neighbourhood.

“ The latter, whose appearance is classical, graceful, and picturesque, do seem to have some life and spirit remaining. How different, alas ! from the melancholy citizens of Rome. Yet there is something in the sulkiness of the Romans, in their morose, ill-natured looks, that puts one strongly in mind of what they were in the days of their prosperity. Their manner is like the growling of an old mastiff, conscious at once of his former strength, and the loss of his teeth. It is this galling sense of their impotence that makes them such dangerous enemies ; they brood over their injuries with a degree of malice of which they would not be capable, if they thought they could easily revenge them, and as they are possessed of few ideas, that one passion which happens to take full possession of their minds, festers sooner or later into a crime.

“ There is less to be said about the classes which stand immediately above the lowest : the trades-people are, *in general*, honest and civil, far from cheerful, yet not sullen ; an active life is, undoubtedly, the best of all remedies against moral, as well physical, disorders ; and this class affords a clear proof of the truth of this remark ; for there is no other way of accounting for the very striking difference of character between them and the poorer classes.

“ As to the higher ranks, they are in all countries so very nearly alike, that I had little expectation of finding them marked with any distinguishing features in Rome ; but I was mistaken ; they are remarkable for the same dull and dissatisfied appearance as the lowest ; are destitute of all spirit, and of all energy ; are incapable of pleasurable, as well as painful, exertions ; and are more like ghosts than beings of this world. There are some few exceptions, but those few are almost exclusively among the descendants of mothers who were not natives of Rome. Adulation continues to perform its part among the higher ranks of society, as if they had been taught in the same school as the Senators of Rome under the worst of the Emperors. The Pope’s arms are stuck up on a great number of private palaces, as if they were his own individual property ; and the sycophantic language of the Roman Gazette, whenever it speaks of the Pope, is perfectly disgusting. It is in the same degree ridiculous, when an opportunity occurs for talking in the lofty language of the *masters of the world*.”

A singular *custom* prevails in Italy, in the method of computing time. The Italians not only reckon the hours from one to twenty in succession, but commence the reckoning at what they call *civil twilight*. As this point of time is constantly varying, astronomers have calculated extensive tables to facilitate the reductions that are necessary for regulating common time-pieces. These tables are formed on the principle that the day commences when the sun is 96° from the zenith, or 6° below the horizon. But the method of fixing the beginning of the day in common use is this ; when, in a house facing the *east*, the light is insufficient for reading, the day terminates, and a fresh one begins. Vague as this method undoubtedly is, it is a much better criterion of time in Italy, where the climate is so uniform and serene, than it would be in England. It depends, however, upon so many circumstances, that are incapable of being correctly determined in any climate, that it must be considered only as the remains of a barbarous custom, which the light of science ought long since to have banished.

KINGDOM OF THE TWO SICILIES.

Name—Situation—Boundaries—Extent—Population—Original Inhabitants—Division—Outlines—General Surface—Mountains—Rivers—Lakes—Climate and Seasons—Soil—Culture—Productions—Towns—Manufactures and Commerce—Government—Laws—Army—Navy—Revenue—Religion—Education—Language—Literature—Arts and Sciences—Manners and Customs—Antiquities and Curiosities—Islands.

THE kingdom of the Two Sicilies derives its NAME from the large island which forms a part of its territories. It is sometimes called the kingdom of Naples and Sicily, but was acknowledged at the Congress by the former title. It occupies the southern or lower part of Italy, with the islands scattered along the shore, and extends from about 36° 30', to nearly 43° of latitude, with the intervention of the narrow strait that separates the island of Sicily from the shores of Calabria. It is bounded on all sides by the Mediterranean, except on the north-west, where it joins the Papal dominions. Its general direction is from north-west to south-east, and its greatest extent on the continent, about 350 miles, but it is narrow in proportion. This kingdom is more extensive than any other of the Italian governments. It includes the ancient countries of *Samnium*, *Campania*, *Apulia*, *Magna Græcia*, and the large island of Sicily, having an area of about 43,500 square miles, and a population of 6,618,000 individuals, being about 152 to each square mile.

When the French over-ran Italy, the continental part of this kingdom fell into their hands, and the king retired to Sicily; but he was restored to the possession of his former dominions in 1814. By a late return, the continental part is divided into fifteen provinces, to which their chief towns and their population, where known, are annexed.

<i>Provinces.</i>	<i>Principal Towns.</i>	<i>Inhabitants.</i>
1. Napoli or Naples.....	Naples.....	330,000
2. Terra di Lavoro.....	Capua.....	7,200
3. Principato Citra.....	Salerno.....	10,000
4. Principato Ultra.....	Conza.....	6,000
5. Abruzzo Ultra I.....	Aquilæ.....	13,600
6. Abruzzo Ultra II.....	Terrano.....	
7. Abruzzo Citra.....	Chiti.....	12,300
8. Capitanta.....	Manfredonia.....	5,000
9. Molise.....	Bojano.....	13,000
10. Terra di Bari.....	Bari.....	18,000
11. Terra d'Otranto.....	Brindisi.....	6,000
12. Basilicata.....	Accrenza.....	
13. Calabria Citra.....	Cozenza.....	14,000
14. Calabria Ultra I.....	Monte Leoni.....	8,000
15. Calabria Ultra II.....	Reggio.....	16,000
16. Sicily.....	Palermo.....	130,000

The OUTLINES of these dominions are serrated into numerous bays, gulfs, and promontories. The Mediterranean indents the south-west, which, with the northern side of Sicily, incloses an immense bay, at the bottom of which the sea, at some very remote period, seems to have forced itself a passage in the straits of Messina, so celebrated in ancient times for the supposed whirlpool of *Charybdis*, and the rock of *Scylla*. The gulfs of Squillace and Taranto form large sweeps in the south-east shore, while others indent the coasts of the Adriatic. Italy has frequently been compared to a high-heeled boot, the bottom part of the leg and the foot being occupied by the kingdom of Naples. According to this supposition, the point nearest to Sicily forms the toe, the promontory of Leuca, the heel, and that of Gargano has some resemblance to a spur.

A great part of this kingdom is mountainous, like most other tracts of Italy, but there are also many beautiful plains and extensive vallies, which the ever genial climate adorns with a peculiar luxuriance of vegetation. The Apennines traverse the country through its whole extent, and diversify it with their numerous ramifications. One of these extends to the coast and reaches the Adriatic, in the promontory of Gargano. The main ridge also divides it into branches about the parallel of Mount Vesuvius, the one stretching towards the south-eastern peninsula, the other intersecting Calabria to the very shores of the strait that separates it from Sicily. The most elevated summit of this chain, is Gran Sasso, which rises about 8800 feet above the level of the sea. Velino is nearly 8300, and Sila 5000 feet in height. Various groups and detached mountains diversify other parts of the country. The Volture, from which the wind; *Vulturnus* derived its name, is one of these groups, and the celebrated Vesuvius, one of its insulated conical summits, standing on a space of nearly 30 miles in circumference. Though Vesuvius is the most interesting object in this delightful country, its appearance at a distance is not very striking, except during an eruption, as its height is only about 3600 feet. But when it pours forth its torrents of burning lava and ashes, its clouds of smoke, and its terrific noise, it presents a spectacle at once grand and awful. It has been well observed, "The terrors of an eruption, the subterranean thunders, the thickening smoke, the ruddy flames, the stony showers ejected to a prodigious height, amidst the coruscations of native lightning, the throes of the mountain, the eruption of the lava, descending in a horrid and copious stream of destruction, have exercised the powers of many writers, but far exceed the utmost energy of description."

What a late traveller has said of the aspect of Italy in general, is peculiarly applicable to the kingdom of Naples. "No where are the sublime and beautiful, the soft and the romantic, the rich and the terrible, so happily blended. Ranges of lofty mountains, hills cultivated to their summits, lakes, waterfalls, fertile plains, torrents of lava, scarcely yet cool, and mountains still burning, give an endless variety to the picture, or rather present an endless succession of enchanting views." The surface of Sicily is also intersected by ridges of mountains, which divide it into three vallies. But the most distinguished feature in the scenery of this island, is *Mount Etna*, situated near the middle of the eastern coast, and at a short distance from the sea. The eruptions of this mountain have been recorded from the dawn of history to the present time.

Etna rises majestically from a group of surrounding mountains, and is about 11,000 feet above the level of the ocean. It towers over the eastern shore, and commands a view of the extensive plain *Val Demoni*, so called from the ancient notion, that this mountain was the abode of the tormented. The fire, which is continually burning in the bowels of Etna, now sometimes styled Mount Gibello, induced the early poets to place there the forges of Cyclops, under the direction of Vulcan. There too, they located the prison of the giants who had rebelled against Jupiter.

The acclivity of this mountain is formed of three distinct regions. The upper part is covered with perpetual snow; the middle regions are encircled with forests, which encompass it like a girdle, and the lower parts consist of cultivated grounds, studded with cities, towns, and villages, and peopled by 100,000 individuals, who are attracted by the fertility of the soil, though thousands have perished by the eruptions, which constantly threaten the existence of the remainder. These dreadful visitations generally break out at some distance below the summit, and have formed a crater of several miles in circumference, from which rivers of liquid fire have frequently issued, and deluged the country to a great distance. In 1669, the city of Catania, situated on the shore, more than thirty miles from the summit of Etna, was nearly destroyed by one of these fiery floods; and frequent damage is sustained by earthquakes.

The general inclination of this part of Italy, is from the Apennines to the opposite coasts, and the country is too narrow to admit of any river of magnitude. Numerous streams enter both the sea and the gulf of Venice, but these are generally mountain streams, caused by the rains and the melting of the snow. A few of the most rapid torrents fall into the gulf of Taranto. Some interesting LAKES are met with, but they are seldom extensive. One of the largest is *Celano*, near the confines of the Papal territories, and in the parallel of Rome. It is represented by Sir William Hamilton, as being thirty miles in circumference, and its magnitude still increasing. It is surrounded by lofty mountains, studded with cottages and farms, and was the ancient *Fucinus*. *Suetonius* says the emperor Claudius employed 30,000 men for eleven years in constructing a subterraneous canal for the purpose of draining it, and much of this work still remains entire. *Lago d'Averno* is near Puzzuolo, in the Terra di Lavoro, and was fabled by the ancient poets to be of so poisonous a quality, that birds in attempting to fly across it, suddenly dropped into its waters. The insalubrity of the stagnant marshes in its vicinity, doubtless, gave rise to the fiction. The other lakes are small.

Occupying a favourable latitude, possessing a varied surface, and being nearly encompassed by the sea, the Neapolitan CLIMATE must be mild and agreeable during most of the year. Campagna Felix, which stretches on each side of the capital, is constantly genial, with a serene sky, and the treasures of the vegetable kingdom produced in rich and varied profusion. During the most sultry parts of the year, the air is alternately cooled and refreshed by breezes from the mountains and the sea. In the more elevated districts, the winters are severe, and snow falls abundantly on the mountains, though seldom seen on the plains. In the vicinity of the marshes, the air is unhealthy, and Calabria has frequently been visited by earthquakes that have laid whole cities in ruins. In most parts of Sicily, the climate approaches a tropical temperature; for at Palermo, though situated on the northern shore, Fahrenheit's thermometer seldom falls below 50°, and frequently stands for several weeks together above 90°.

In many parts of these dominions the ground is chiefly composed of barren rocks. In some it is volcanic, but in others it is light and fertile. Local circumstances have great effect. The mountains of Abruzzo, present the dreary aspect of the higher Alps, while the Campagna Felix, is associated with ideas of paradise. The provinces between the Apennines and the Tyrrhenian sea, are often saturated with rain, while those on the east of the same ridge seldom experience a refreshing shower. Many arid tracts are therefore met with towards the shores of the Adriatic. Calabria is very fruitful, except where over-run with woods and marshes. The low lands of Sicily have always been noted for their fertility. AGRICULTURE in most parts is greatly neglected, though in a few places in Sicily, the English implements and improved modes of culture have been introduced. In most parts of the Neapo-

litan dominions, however, draining, irrigating, the proper application of manure, the most beneficial rotation of crops, and the growth of artificial grasses, are either unknown or not attended to.

The division of labour, and the appropriation of soil, appear to be little better understood than the rotation of crops ; for vines, olives, and grain, are not only cultivated by the same person, but are often grown on the same spot. Elms and poplars are planted in rows, for the support of the vines, and the intermediate places sown with grain or pulse. Oxen are universally used for the business of agriculture, and the grain is either separated from the straw by the treading of cattle, or by a large rough stone which is dragged over it, till the sheaves are broken, and the corn shaken out. The most common kinds are wheat, Indian corn, and barley, with rye in some of the high sandy districts, and rice in the low damp grounds. Flax and hemp are usual products. Cotton and tobacco are grown in some of the southern tracts. Olives are abundant, while oranges, lemons, citrons, melons, almonds, dates, figs, pomegranates, and other fruits, manifest an approach to a tropical climate.

Neither the domestic nor wild ANIMALS differ much from those of other parts of Italy. Mules are chiefly employed in travelling, as best adapted to the state of the country. Large herds of buffaloes range over the marshy plains on the north-west, while common cattle and sheep are bred in most others. The crested porcupine is peculiar to the south of Italy.—The Neapolitan territories have been but little explored with respect to their MINERAL treasures. Metals of various kinds, with rock-salt and other valuable fossil substances, have been discovered both in the continental and insular parts ; though few of them are worked to any advantage. Marble abounds, and crystal, with several other kinds of rare stones, are also obtained. MINERAL WATERS have been discovered in various places, and those of Costella Mare, a short distance from Naples, are among the most noted.

NAPLES, the capital of these dominions, and the queen of the Mediterranean, lies at the bottom of a deep bay, spreading her greatness along the shore, and covering the acclivity of the rising hills with her gardens, her villas, and her retreats. The internal appearance of Naples is pleasing, the buildings are lofty, and many of the streets wide and extensive. Mr. *Galiffe*, who lately visited this far-famed city, observes, “ There is no city in Europe comparable to Naples in point of beauty. There are finer buildings, and finer streets in St. Petersburg ; but the situation of Naples, the animated prospects on every side, the magnificent bay, the islands, the awful and ever present phenomena of Vesuvius, the noble amphitheatre, which the city forms in its gradual ascent from the shore to the top of the encircling hills, the incredible bustle of its immense population, of which no other town can give an adequate idea, the noise with which the air is constantly filled, by the rolling of carriages, and the hum of human voices in every varied combination of tone and expression ; all this completely overpowers the faculties at first, and produces a sort of intoxication, which opens every pore to new and indescribable impressions. It is really as if one had previously been only half alive, and as if new senses were developed which had hitherto lain dormant and unconscious.”

It is the charms of the situation, and the *tout ensemble*, and not the architectural magnificence that renders Naples thus enchanting. Moresco, Spanish, and Roman edifices are indiscriminately mingled together, and destroy all appearance of symmetry. The magnificence of its churches and palaces, consists in their magnitude, and the marbles, paintings, and decorations, with which they are literally encumbered. In extent and population, Naples is the fourth city in Europe, ranking next to London, Paris, and Constantinople, and still taking the lead of St. Petersburg, Moscow, and Vienna. Its form is oblong, stretching from north to south, and its circuit is esti-

mated at nine miles, but including the suburbs, it is double that extent. Many of the streets are narrow, and rendered gloomy by the height of the houses ; but others are large and splendid. The Strada di Toledo, which extends more than half the length of the city, and has the Piazza di Mercato at the one end, and the royal palace at the other, is the finest street in Naples, and one of the best in Europe. Nothing can exceed the liveliness and bustle of this street. From day-break till after sun-set, it is constantly crowded with passengers, carriages, soldiers, lazaroni, beggars, stalls, and votaries of pleasure. The carriages drive so rapidly that they appear to cleave the immense crowd, which quickly closes again, like the waves on the track of a vessel. Most of the streets in the Neapolitan capital are paved with broad flags of lava, without any distinction for foot-passengers. Naples has several spacious, but few handsome, squares. Many of them are decorated with obelisks and fountains.

Like most other capitals, Naples contains numerous public buildings and institutions. Several of its churches have been erected on the sites of more ancient temples, and the cathedral is supported by more than one hundred columns of granite that belonged to the ancient edifice it has succeeded. The royal palace stands in the square at the southern extremity of the Strada di Toledo, and is a spacious and handsome structure. The great theatre of San Carlos, in the same square, is one of the most superb in Europe. The university has existed since the 13th century, and several charitable institutions are liberally supported. Naples is not destitute of manufactures and trade, but they appear comparatively small when contrasted with some of the larger ports in the more northern countries. Its origin is lost in the fables of antiquity, but is generally ascribed to the Greeks, by whom it was called *Parthenope*. Its present population is about 330,000.

So little interest attaches to the present state of most of the other towns of this kingdom that only a few of them shall be briefly noticed.

BARI is a large commercial town on the shore of the Adriatic, and is the place where the Kings of Naples were anciently crowned. The chief articles of its trade are wine, oil, and fruit, and its population about 18,000. TARANTO, which was the ancient *Tarentum*, is situated at the top of the gulf of the same name, and has about an equal number of inhabitants with Bari. REGGIO is seated on the strait of Messina, in a district that abounds with the riches of Calabria, and has some manufactures of small articles, and about 16,500 inhabitants. GAETA is one of the strongest places in the kingdom, and is situated on a small promontory of the Mediterranean, not far from the Roman territories. Its population is about 15,000. LECCA and AQUILA are both large inland towns, containing a population of about 14,000 each. The former is situated near the centre of the south-eastern promontory, and the latter covers a hill on the east side of the Apennines, near the northern part of the kingdom.

CAPUA stands at the foot of a mountain on the river Volturno, and has been celebrated since the days of Hannibal, as being the place where luxury conquered that army which the Romans could not subdue. It contains numerous inscriptions, and about 7000 inhabitants. AMALFI, a sea-port, about thirty miles below Naples, is the place where the mariner's compass is supposed to have been invented.

PALERMO is the capital of the island of Sicily. It stands on the side of a small bay on the northern shores, and spreads over part of a beautiful plain, to which groves of fruit-trees, and superior cultivation, impart the appearance of a delightful garden. When viewed from Monte Pellegrino, Palermo presents a charming prospect. The bay forms a graceful sweep along the shore ; spires, domes, and turrets, rise above the other buildings ; and the adjacent plain is adorned with convents, villas, and cottages, romantically interspersed among its luxuriant foliage, and backed

by an amphitheatre of majestic mountain scenery. The form of the city is circular, and the two best streets intersect each other at right angles, near the centre, forming a handsome octagonal space, where they meet. They are terminated by the four principal gates of the city. Many of the houses have something imposing in their architecture; and the fountains, columns, statues, and busts, with which they are adorned, are suitable decorations for a southern capital. The chief public buildings are churches and monasteries, which are numerous. The principal public walk at Palermo, is a terrace, called the *Marina*, which extends about a mile along the bay, and is crowded every evening. The eastern extremity of the *Marina* is terminated by the *Flora* garden, which is a spacious area laid out in public walks, interspersed with statues, fountains, and summer-houses. This is open to all classes, and is much frequented during the cool of the evening.

Though the streets of Palermo are thronged with people to excess, it is not a place of great trade. It has manufactures of silk and satin, which, with wine, oil, and a few other productions of the island, compose its chief exports; but its imports embrace numerous articles of both luxury and convenience. It seems to have been founded by the Phœnicians, and was successively possessed by the Carthaginians, the Romans, and the Saracens, and now contains a population of about one hundred and thirty thousand individuals.

MESSINA is a large handsome city, on the western shore of the strait which separates Sicily from the continent. The strait is here about three miles in width, and from the middle of it Messina has a noble and commanding aspect. A stately range of buildings, more than a mile in length, fronts the sea, and is only separated from it by a spacious quay. A ridge of lofty, rugged mountains rises almost immediately from the sea, while the other parts of Messina gradually ascend their swelling bases, and present nearly every public building distinctly to view; the white stone of which they are composed forming a striking contrast with the dark green of the forest behind. A dreadful earthquake destroyed most of the town in 1783, but a new and still more handsome city has risen on its ruins. The churches are numerous, and some of them splendid; while monasteries and convents are thickly scattered both in the city and the neighbourhood. The harbour is a spacious basin, formed by a tongue of land that projects into the sea on the opposite side of the bay, on which the city stands. The trade is extensive, and all the products of the island are exported, with silk, which is largely manufactured in the city. About 10,000 pipes of Faro wine are annually shipped. The imports are chiefly colonial produce and British manufactures. The population is about 80,000.

CATANIA is a noted city at the foot of Mount Etna, and has suffered greatly from its eruptions. It is not less eminent among the cities of Sicily for its extent and beauty, than from its relation to the history of that volcano which “rises from its wide base on those shores, with a majesty and singleness of form and outline which render it almost unique among the mountains of the world.” Though three times destroyed by the lava, Catania has always arisen from its ashes more splendidly than before, and now ranks among the most elegant cities in Europe. Several of its public edifices are handsome structures. It contains about thirty monasteries and convents, with an elegant cathedral, and forty-eight churches, besides other places of worship. Most of the houses are built of lava, and the streets are paved with the same substance. Its population has varied greatly at different periods; but the salubrity of the climate, and the fertility of the soil, have contributed much to its prosperity; and the number of its inhabitants is now about 50,000. SYRACUSE, the ancient capital of the island, is situated on the eastern shore, and has been the theatre of many great events, and the seat of a flourishing republic. It gave birth to the celebrated Archimedes, 287 years before Christ, and by whose superior knowledge,

the city maintained a siege of three years against the Romans in the first Punic war ; but it does not now contain more than about 20,000 inhabitants. **NORO**, on the east, and **MAZARA** on the south-west coast, are both large sea-ports, and the capitals of the vallies of their respective names.

Neither the Neapolitans nor the Sicilians are a manufacturing people. Silk is their staple article, but nearly half the quantity made is exported raw. The whole of Italian industry, indeed, is at a very low ebb. A climate that reduces the wants of life, and produces many of its necessities almost spontaneously, a government that cramps exertion by its arbitrary imposts, and a religion that abounds in monasteries, processions, and festivals, have shed their paralyzing influence over Italy, and rendered the lower classes of the inhabitants more wretched, and far less useful to society, than the same orders in any other country in Europe. A few cottons and muslins, with embroidery, and some other articles designed for their own consumption, are also made in various parts of the country ; with fire-arms and porcelain ; but not in quantities sufficient for the demand. Its **COMMERCE** partakes of the languor of its general industry, and most of its valuable products are exported in their crude state, and in foreign vessels. Its principal exports are oil, silk, wool, fruit, cotton, and wine. The imports include sugar, coffee, and other colonial produce ; with woollens, linens, cottons, hardware, tin, lead, clocks, watches, and furniture. Salt-fish is likewise sent in great quantities to the Italian and Neapolitan ports.

The late revolution at Naples, and the present unsettled state of public affairs in that kingdom, render it necessary to defer an account of its *Government* and *Constitution* till the close of the work. By that time, it is probable, not only the form of government which Naples is to have, will be definitively settled, but a system will be devised and recognised for the whole of the Italian states. Such, at least, is expected to be the result of the conferences at Laybach, and of the policy pursued by Austria and Russia. Its **ARMY** is about 25,000, and its **NAVY** consists of three ships of the line, with a few smaller vessels, and gun-boats. The **REVENUE** has lately been estimated at a little more than two millions sterling.

The people of these dominions are all catholics, except the descendants of those Albanians who sought an asylum there when the Turks over-ran their country in the 15th century, and who still adhere to the rights of the Greek church. Twenty archbishops, and one hundred and twenty-five bishops, with numerous churches, monasteries, and convents, priests, monks, and nuns, form a splendid ecclesiastical establishment. In few countries is a *profession* of religion more obvious—in none are its benign fruits more sparingly exhibited. The Neapolitans are universally allowed to be the most sensual people in Europe ; hence the most distinguishing trait in their character, is the enjoyment of the present moment, regardless of the future. Their **LANGUAGE** is a dialect of the Italian. The effects of **EDUCATION** are scarcely perceptible ; and though not destitute of institutions, **ARTS** and **SCIENCES** do not flourish.

The following brief sketch presents a lively picture of many of the customs and scenes daily witnessed in this celebrated city.—“ Naples has been said to resemble a large house, with a vast number of inhabitants, and the simile is a just one ; for, sleeping excepted, every thing is done in the streets here, that in other countries is done within doors. All the artisans and mechanics work in the open street, producing the most curious medley of sounds and sights that can be conceived. The noise of the populace of the streets of Naples is without example ; this is assisted by all the powers of gesticulation, and a perpetual motion. Fish, fruit, pulse, and melons in slices, are perpetually on sale ; here are also the water and lemonade sellers at their stands, inviting you every moment ; the beggars too, whom it is

impossible to get rid of, harass you every instant; begging monks, black, white, and grey, carrying their booty to their convents in bags; others leading loaded asses in ropes, make up a part of the scene; capuchins and recollets, with their robes tucked up, scarcely move their legs under them; but suffer the vulgar, who are ready enough, to kiss their hands with the greatest devotion; priests in sable, with their spectacles on, snuffing up the fresh air. Many female religious are also to be seen, some who have fulfilled their vows, and others who content themselves with bare promises; numbers of others in black, with their heads neatly dressed, and their feet without shoes; boys crowding round the sellers of maccaroni, to beg a spoonful now and then; squalling infants; jugglers, players on the hautboy, and bag-pipers with dancing puppets; walking musicians, who exhibit their wretched playing and singing before the images of the Madonnas in the streets; soldiers on foot, officers in their open carriages; lawyers arm in arm, walking to the Vicaria; the processions, funerals, oxen drawing dung carts, to sell the contents to the gardeners, or to those who sell it again.—This is a faint picture of life as it is exhibited in the streets of Naples.”

In the remains of ancient art, the kingdom of the Two Sicilies yields to the Papal States, but in the singular and sublime phenomena of Nature, it is surpassed by few. There the earth frequently trembles, the tremendous Volcano roars, the day is darkened with clouds of smoke, and the night is illuminated by the ascending flames, while torrents of crimson lava roll a fiery deluge over regions of incomparable beauty. Cities have not only been destroyed, but so completely engulfed by the flood, that every trace of their existence was for ages buried in oblivion. *Herculaneum* and *Pompeii* are striking examples; and instead of being subjects of ancient history, they have become objects of modern discovery. So deep indeed is the former entombed, and so indurated the substance with which it is covered, as to cause the excavation to be abandoned. But *Pompeii* being much nearer the surface, and the matter much more easily removed, great part of it is once more exposed to the light of day. The work of disclosure still proceeds, and the following brief account, given by a gentleman who lately visited it, cannot but be interesting. “The houses in general are very low, and the rooms are small, I should think not above ten feet high. Every house is provided with a well and cistern. Every thing seems to be in proportion; the principal streets do not appear to exceed 16 feet in width, with side pavements of about three feet; some of the subordinate streets are from six to ten feet wide, with the side pavements in proportion, these are occasionally high, and are reached by steps. The columns of the barracks are about 15 feet in height, they are made of tuffa with stucco; one-third of the shaft is smoothly plastered, the rest fluted to the capital. The walls of the houses are often painted red, and some of them have borders and antique ornaments, masks, and imitations of marble, but in general poorly executed. I have observed, on the walls of an eating room, various kinds of food and game tolerably represented; one woman's apartment was adorned with subjects relating to love; and a man's with pictures of a martial character. Considering that the whole has been under ground upwards of seventeen centuries, it is certainly surprising that they should be as fresh as at the period of their burial. The whole extent of the city, not more than half of which is excavated, may be about four miles.”—*Williams*.

Etna and Vesuvius have already been noticed; but the curious cavern, called the *Grotto del Cane*, and the *Solfatara*, deserve the attention of the traveller, with numerous others of minor interest, that cannot be described in this general sketch. The *Grotto del Cane* is a cave near Naples, from which a hot mephitic vapour constantly issues. It derives its name from the experiment being usually made with dogs. The animal when brought near the mouth, manifests his uneasiness by con-

vulsive struggles, and soon becomes apparently lifeless; but being removed, he recovers after a few minutes, and appears uninjured. These experiments, however, cannot be often repeated with the same dog, without proving fatal, and a similar effect is produced on the human frame when exposed to the influence of the vapour.—A late traveller thus describes the Solfatara. “The appellation of *Solfatara* is a corruption of *Sulphutara*, and given to an oval plain, extending on an eminence, but surrounded on all sides by an elevated border, resembling a rampart. The shattered hills that form this rampart are impregnated with sulphur, and heated by a subterranean fire. They are destitute of all verdure, and of all appearance of vegetation. The plain below is a pale yellow surface of sulphureous marl, thrown like a vault over an abyss of fire. Its heat almost scorches the feet of those who pass over it, and the workings of the furnace beneath, are heard distinctly through it. A stamp, or the rolling of a stone over it, rebellows in hollow murmurs, weakening as they descend, till they lose themselves in the vastness of the abyss below. Sulphureous exhalations arise from the crevices; and from an orifice at one of the extremities a thick vapour by day, and a pale blue flame by night, burst forth with a murmuring sound and great impetuosity.”—*Eustace*.

Several small ISLANDS are situated in the large gulf between the northern shores of Sicily and the Continent. They lie in the 39th degree of latitude, and extend from about 13° 15' to 15° 40' of east longitude, and are denominated the LIPARI ISLANDS, from being the largest. The whole group comprises twelve, with a number of barren rocks that have not received specific names. These are Lipari, Stromboli, Volcano, Salini, Felicuda, Alicuda, Panaria, Volcanello, Vacheluse, Lisca, Dattolo, and Tila Navi. The whole group bears the strongest marks of a volcanic origin, and in several of them subterranean fires are still active. The most noted volcanoes are those of Stromboli and Volcano. The first, indeed, is the only one yet discovered that rages without intermission, which it appears to have done for more than 2000 years. This induced the ancients to suppose that Vulcan's workshop and furnaces were beneath these islands, where, with his Cyclops, he forged the thunderbolts for Jupiter. *Eolus*, the god of the winds, was also thought to reside here, and hence they were frequently called *Insulæ Eoliæ*. Only four or five of the group are inhabited by about 20,000 people; and where they are susceptible of cultivation, they yield excellent wine and fruits, particularly figs and currants. The inhabitants are distinguished cultivators and intrepid fishermen. They export fish, alum, sulphur, nitre, and other volcanic products, and supply most of Europe with pumice-stone. The nearest of these islands is about twelve miles, and the furthest about thirty-five from the coast of Sicily; LIPARI, the largest of the group, is nearly twenty miles. It is populous, and well cultivated, with a surface of 100 square miles and 15,000 inhabitants. About 2000 pipes of wine, (chiefly malnusey) are annually exported from this island alone, and there is a high conical hill entirely composed of pumice-stone. *Lipari* is the principal town, and contains about two-thirds of the whole population. The islands present many caverns and some Natural Curiosities.

Several islands are also met with off the coast of Sicily, and near the gulf of Naples, which present similar productions, and acknowledge the same government. The isle of ISCHIA, at the northern entrance of the gulf of Naples, exhibits various volcanic appearances; and CAPRI, the ancient *Caprea*, was rendered memorable by the debaucheries of Tiberius. The isles of PONZA are situated further north-west, and are more renowned for the exile of *Julia* the daughter of Augustus, than for any modern circumstance.

SMALLER ITALIAN STATES.

I. THE GRAND DUCHY OF TUSCANY.

TUSCANY is situated in the upper part of Italy, and is half encompassed by the States of the Church. It is bounded on the west by the Mediterranean, and on the north-west by the small principality of Lucca, except a detached part which borders on the south of Parma, between the states of Modena and those of Sardinia. It lies chiefly between the 42d and the 44th degrees of latitude, and resembles a heart in shape, with its point towards the south. Its greatest length is about 130 miles, and its extreme breadth rather more than 100, comprising a surface of 9270 square miles, and a population of 1,170,000, which is about 126 persons to each square mile.

This state lately formed a part of the French empire, but was restored to His Imperial Highness the Archduke Ferdinand of Austria, by the Congress at Vienna, with the addition of the State of Presidii, and that part of the island of Elba which belonged to the king of Sicily before the year 1801, together with the principality of Piombino. Much of this duchy, which includes a great part of the ancient *Etruria*, is mountainous. The Apennines intersect it and spread their ramifications over all the eastern and southern districts. The *Maremma* stretches through a great part of the south-western regions; but here the efforts of art, and the labours of cultivation have greatly diminished the influence of the *Mal Aria*, and rendered this part of the unhealthy tract much superior to that in the Papal States. Tuscany presents many picturesque and beautiful scenes, sublime by Nature and adorned by art. Amidst the more rugged parts, vallies smiling with the blushing fruits of Pomona, and the waving treasures of Ceres, are interspersed. The two principal rivers of Tuscany, are the ARNO and the OMBRONNE; the former intersects the country from east to west, and enters the Mediterranean near the northern extremity of the coast; the latter flows towards the south, and terminates in the same sea. The Soil is often very fertile, yielding abundance of various kinds of grain, with oranges, lemons, olives, grapes, mulberries, and the different fruits common to other parts of Italy. Minerals are also obtained in the mountains of Tuscany, with several precious stones not common to other parts. Among these have been mentioned, amethysts, jaspers, cornelians, crystal, lapis lazuli, and chalcedony, with abundance of marble and alabaster. Quicksilver is also one of its products. MINERAL WATERS have been discovered, and those of *Pisa* have long been celebrated.

The capital of this grand duchy is FLORENCE, which is not only one of the principal cities of Italy, but one of the handsomest in Europe. It stands in a beautiful plain watered by the Arno, and derives its name from the multiplicity of elegant flowers that bloom in its vicinity. It commands delightful prospects in almost every direction. It is immediately encompassed with gardens, plantations, and villas, and more remotely surrounded with plains, hills, and vales, chequered

by woods and silvered by streams. It well deserves, therefore, its title of *Fiorenza La Bella*. It stands on the Arno, which is crossed by several handsome bridges, one of which is much admired for its architectural beauty. The city is about five or six miles in circumference, and contains many noble structures belonging to the principal families of the Tuscan states; but as the Tuscan architecture is heavy, the edifices do not possess that airy elegant lightness which distinguishes the Roman. Many of the streets are handsome, and the palaces front each other on the opposite banks of the river. The ducal residence is a spacious structure of free-stone, containing about 900 departments. The *Piazza del Duca*, is a noble square surrounded with elegant buildings, and adorned with statues. The cathedral is a magnificent structure. Its walls are cased with marble, and its floor paved with the same material, from a design of Michael Angelo. Its dome is also greatly admired. The churches are numerous, and many of them rich and beautiful. But Florence is not only distinguished for its situation and its buildings, but as the seat of the elegant and liberal arts. The Medicean gallery, frequently called the gallery of Florence, has been long renowned throughout Europe; and is literally crowded with specimens of every age since the 11th century. Many of the most valuable of these were removed to Paris during the domination of the French, but have since been restored. The celebrated *Venus de Medicis* stands there, the wonder of art, and the admiration of ages. The university, the academy, the schools of the fine arts, the public libraries, the museum, and the botanical garden, are all attractive objects to the man of taste. Florence has also manufactures of silks, satins, jewellery, hats, some other articles, and a good trade, which is chiefly carried on by the Jews. It has given birth to many eminent men, and now contains a population of 75,000 individuals.

LEGHORN, (the *Livorno* of the Italians) is one of the most flourishing sea-ports in Italy. It stands in a marshy district, and, like Venice, a part of it is intersected by canals, which carry the merchandize to the doors of the warehouses. The harbour is difficult to enter, and does not contain sufficient water for large ships, which lie in the roadstead moored to great pillars. Like the other Italian cities, it abounds in churches, and has many good buildings. The Lazaretto near the harbour is esteemed one of the finest establishments of the kind in Europe. Leghorn is the principal medium of the Italian commerce with the Levant, and the northern shores of Africa. The present number of inhabitants is about 50,000.

PISA is an ancient city, situated near the mouth of the Arno. Most of its commerce, however, has been transferred to Leghorn, and it has greatly declined from its former consequence. It covers a wide space, but much of it is thinly peopled, and its inhabitants do not exceed 18,000. SIENNA, or SIENA, is also a venerable and renowned city of the Tuscan states, though, like Pisa, it has lost much of its former splendour. Augustus planted a colony here (*colonia sinensis*), and it became a populous city; but after experiencing various vicissitudes, its inhabitants are now reduced to about 16,000. Its cathedral is a noted Gothic structure, the mosaic pavement of which is supposed to be the finest in Italy. It is the seat of a university and several academies. Siena has also manufactures of cloth, hats, and ribbands, with tanneries and iron-works.

The Government of Tuscany is nearly absolute. The ARMY amounts to about 6000; and the Revenue to nearly £500,000. The RELIGION and Ecclesiastical Establishments are the same as in other parts of Italy; but it has always been one of the chief seats of LITERATURE, ARTS, and SCIENCES. Its school of painting soon rose to eminence under *Cimabue*, and was subsequently honoured by enrolling the names of *Leonardi da Vinci*, and *Michael Angelo*, among its celebrated men. The Florentines of the present age seem to be distinguished from most of the other

Italians, by their love of conviviality ; for a late traveller, who visited their city, observes,

“ The Florentines are in many respects totally different from the other Italians. They are more vain than any of their neighbours, and are ostentatious even in trifles. The young men are conceited in their persons, and one hardly sees one of them pass before a looking-glass, without stopping to admire himself, or to adjust some part of his dress. Even in the bathing-house, I do not think I ever saw one who did not fold his towel round his head, either before or after the bath, in the shape of an ornamental turban. One of the points on which they display most vanity, is their eating ; they boast of it as if it were a great distinction to have plenty to eat, and a great virtue to derive the highest enjoyment from it, ‘ I am now going to dine or to eat extremely well, after which I shall rest awhile, and then I shall sup,’—is a phrase which I have heard more than twenty times from different persons. They are withal extremely officious, and seldom loth to receive payment for their services. Their politeness, language, and manners, render them very agreeable to strangers ; and I have seen few societies which I should prefer to, or even like so well, as that of Florence.”—*Galiffe*.

Many singular scenes and *Natural Curiosities* exist among the elevated ridges of the Apennines, among which the following deserves to be mentioned. Near Pietra Mala, at the foot of Mount Candida, is a fire perpetually issuing from the ground. Mr. Williams says, when he visited the spot, it rose in lambent flames among loose earth and stones, depositing a carbonaceous matter, volatilized, and lying like soot, without peculiar smell. When the wind blew, the flames were noisy like a bonfire, but in a calm they were silent. The extent was then about eleven feet, and the height about the same number of inches. When Mr. Eustace was at the same place he states their length at 140 feet.

In addition to the continental part of these dominions, the Grand Duke possesses the island of ELBA, which is separated by a narrow channel from the western promontory of Etruria. It is an irregular mountainous island, about 60 miles in circuit, and peopled by twelve or thirteen thousand inhabitants. Elba was early known to the Greeks as *Æthalia*, and subsequently as *Ilva*. Its climate is salubrious, and its productions, wine and olives, with other fruits, corn, and maize. Chesnuts, almonds, and walnuts, also grow in many places. But cultivation is either little understood, or much neglected, as the grain raised is insufficient for the supply of the inhabitants half the year. The principal domestic animals are horses and mules. Cattle are very scarce, but goats are numerous, and their milk is generally used. Elba has always been celebrated for its iron mines, near Rio, which are now extensively worked. It is also supposed to contain gold, silver, and copper, and has abundance of granite, load-stone, and marble. It has recently, however, derived celebrity, from becoming the residence, and forming the Lilliputian empire of Buonaparte, after his first overthrow in 1814.

PORTO FERRAJO, which is thought to be the *Argoas Portus* of antiquity, is the capital. It is a neat small town, with a good harbour, and a population of 5000. *Porto Longone* has about 2000 inhabitants. Six other small towns are situated in different parts of the island. The coast contains several commodious bays and natural harbours, and the tunny fishery is carried on off the shores.

2. STATES OF MODENA.

The States of Modena are situated between the northern part of the Papal dominions and the States of Parma. They are likewise bounded on the north by the Austrian territories, and on the south by the principality of Lucca. They compose an inland tract of country, about 85 miles in length, and 25 in breadth, including a

surface of 2060 square miles, and a population of 370,000 individuals; which is nearly 180 persons to each mile.

Though the extent of this duchy is small, it is possessed in full sovereignty by a collateral branch of the imperial family of Austria. The French took possession of these dominions in 1796, but they were restored to the Archduke Francis d'Este by the Congress in 1814. The Duchy of Massa, and the principality of Carrara, were assigned to the Archduchess Maria Beatrice d'Este, his mother, for her life, and then to revert to the Archduke, with the other parts of the territories. The ducal states, therefore, only include at present, the six districts of Modena, Reggio, Mirandola, Correggio, Carpi, and Navellara, with Massa Carrara in reversion.

These territories form a part of the rich basin of the Po, which washes their northern extremity, and are watered by its tributary stream that flows from north to south nearly through their whole extent. The surface is a gently undulating plain, seldom rising into elevations that deserve the name of mountains, except where the ramifications of the Apennines stretch into the southern parts. Numerous streams descend from these branches, and are chiefly collected in the rivers Crostolo, Panaro, and Secchia, which are all tributary to the Po. The *climate* is mild and pleasant, and the *soil*, in general, rich and fruitful. The chief products are corn, wine, and fruit. Olives, mulberries, and grain, are extensively cultivated. The pastures are excellent, and great numbers of cattle are bred. Bees are also objects of much attention, but the principal article, both of produce and manufacture, is silk. Minerals of several kinds are likewise produced in the hilly parts, and Carrara is noted for yielding the best marble in Italy.

MODENA, the capital, is a handsome town, situated on a fertile plain, between the Panaro and the Secchia. The houses are well-built, the streets clean and regular, and most of them bordered with arcades. The principal building is the Ducal palace, which is a noble structure, situated in a large square. The cathedral is only remarkable for its marble tower, which is one of the highest in Italy. The buildings belonging to the college are spacious and handsome, and the library contains about 80,000 volumes. The other chief objects of attention in Modena are the hospitals, the citadel, and some scientific collections. The manufactures are silk, woollens, leather, and glass. The population is estimated at 25,000.

REGGIO is the next town in point of population, and contains about 13,000 inhabitants. MASSA has about 10,000. Many of the best houses are built of Carrara marble; and there is an academy of sculpture and architecture. MIRANDOLA is a fortified town, with manufactures of silk and linen, and about 8200 inhabitants. The other towns are all much smaller. The regular army, supported by the Grand Dukes, is about 2500: and the annual revenue of the state is £120,000.

3. STATES OF PARMA.

PARMA is situated on the west of Modena. It forms nearly a square inland state on the right bank of the Po, and contains a superficial extent of about 2300 square miles, and 380,000 inhabitants. These territories include the Duchies of Parma, Placentia, and Guastalla, which were granted by the congress to the archduchess Maria Louisa, after the dethronement of her husband, Napoleon Buonaparte. The southern districts are intersected by branches of the Apennines, but the northern stretch into extensive plains, watered by various streams that ultimately fall into the Po. The soil in the mountainous tracts is stony and barren, but in the plains and vallies it is rich and fertile, producing wheat, maize, wine, and fruits, with hemp, saffron, and all kinds of vegetables common to the northern parts of the Italian peninsula. It also yields rich pasturage, and numerous herds of cattle are kept. Parmesan cheese was originally made in this Duchy, but it is now more generally

produced in the rich meadows near Lodi. Bees and silk-worms are objects of attention, and silk articles constitute the chief manufacture. Iron, copper, and vitriol, are obtained in the mountains.

PARMA is the capital of these dominions. It is delightfully situated on a fertile plain, and watered by a small river of the same name. Parma is not so well-built as many of the other large towns of Italy, but has a handsome square near the centre, surrounded with arcades. Its fortifications are of little importance, but its pentagonal citadel is esteemed one of the strongest in Italy. The dome of the cathedral is noted for its paintings by Correggio; and the cupola of St. John's was painted also by the same artist. The other public buildings present nothing remarkable. Its university is not numerously attended. It is the see of an archbishop and the seat of Ducal administration. Its manufactures are principally silk and hats; the population is about 30,000.

PLACENTIA is the other chief city in these states. It is situated on the right bank of the Po. The public buildings, squares, and fountains, are handsome. The street called the *Stradone* is about 1000 yards long, and is reckoned one of the finest in Italy. It has a cathedral, and a great number of churches, and about 15,000 inhabitants.—The government is absolute, as the legislative and executive powers are wholly in the hands of the reigning prince.

The RELIGION is catholic; the *Army* about 2500; and the revenue of the state nearly £160,000 annually; but it is encumbered with a public debt. The inhabitants are considered as a frugal and industrious people, and less addicted to sensual pleasures than in some of the other states. The reversion of these countries was vested in the houses of Austria and Sardinia, but the arrangements that took place between these powers and Spain, in 1818, assigned it to the latter.

4. THE DUCHY of LUCCA.

This small principality was created a Duchy by the congress in 1815, and given in full sovereignty to her Majesty the Infanta Maria Louisa of Spain, and her descendants in the direct male line. Lucca is encompassed by Tuscany, Modena, and the Mediterranean, and contains about 430 square miles, with 124,000 inhabitants. Much of this territory is mountainous, and its scenery is picturesque and beautiful, while the industry of the inhabitants has covered many of the hills, to their very summits, with vines, olives, chesnuts, and mulberry-trees. The atmosphere has all the mildness and serenity of an Italian sky. The delightful plain upon which the capital stands, and the vallies in other parts of the duchy, are composed of black alluvial soil, like most parts of Lombardy, and abounds with rich pasturage. Some grain is produced, but wine, oil, and silk, are the chief products, and form the principal articles of its exports.

The capital is LUCCA, situated on a beautiful plain, near the southern confines, and watered by the river Serchio. Lucca is about three miles in circumference. Its ramparts are planted with trees. This city does not contain any thing that distinguishes it from the other large towns in the north of Italy. Several of the churches are built of Carrara marble. The cathedral and St. Michael's are the most elegant. The palace of the princess is a large structure surrounded with trees. Many of the nobility have elegant mansions in the vicinity. Lucca has a university, an academy of Arts and Sciences, with a celebrated establishment for the education of females of noble birth. There are likewise manufactures of cloth and silk, but the principal trade is in oil. The celebrated baths of Lucca are on the banks of the Serchio, near the town, and are much frequented. The inhabitants of Lucca amount to about 18,000. The *Religion* is catholic, the *Army* about 800, and the yearly income of the Duchy nearly £65,000, to which his Imperial Majesty, the emperor of Austria.

and His Imperial Highness the Grand Duke of Tuscany add 500,000 francs, or £21,000 annually. The people of this Duchy excel most of the other Italians in moral and industrious habits.

5. THE REPUBLIC OF SAN MARINO.

San Marino is indisputably the least state in Europe. It contains an extent of about 40 square miles, with a population of 7000 individuals. It is situated in the Roman States, a few miles south-west of the city of Rimini, and consists of a mountain of nearly 2000 feet in elevation, and a narrow tract at its base. Its origin is ascribed to a Dalmatian mason of that name, who repaired thither, and was afterwards joined by other settlers who gradually formed themselves into a small republic, which has maintained its independence inviolable for a thousand years. Though wholly encompassed by the Papal States, the San Marinians do not acknowledge the temporal authority of the Pope in any other sense than as protector. It produces good pasturage, wine, and fruit. The wine is said to be long kept in caverns to improve its quality. It contains a fortified town of the same name, situated on the steep side of the mountain, from whence the turrets of its churches, convents, and the three towers that form part of its defence, are seen at a great distance. This is perhaps the only city in Italy which does not contain any church built in a good style. The population, including those in the suburb of Borgo, is stated at 6000, the remainder of the people belonging to the Republic are spread over the territory in a few villages and detached houses. As this is an insulated mountain, its summit affords a delightful view in every direction. Towards the west, the eye ranges over the chain of mountains that separates the Tuscan from the Roman States; towards the south, it surveys the paradise of Romagna and the Duchy of Urbino, as far as the mountains of Ancona; on the east, stretches the Adriatic, and, in clear weather, the hills of Dalmatia are seen in the horizon; while towards the north, the view is bounded by the towering summits of the Alps. The Religion of San Marino is Catholic; and the annual Revenue of the state about £5000. All the inhabitants of this small Republic are engaged in agricultural pursuits, and appear perfectly contented with their situation; for when Buonaparte offered to extend their dominions to the sea, they refused the enlargement, and only requested that he would command his douaniers not to act towards them too rigorously.

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Names of Places.				Latitudes.			Longitudes.			Names of Places.				Latitudes.			Longitudes.		
				°	'	"	°	'	"					°	'	"	°	'	"
Adria ..	...	...	...	45	2	0	12	2	0	Leghorn ..	...	...	...	43	33	5	10	16	45
Alba ...	...	...	...	41	43	0	12	50	0	Lucca ...	...	...	...	43	54	0	10	34	0
Alessandria...	...	...	...	44	57	0	8	40	0	Macerata ..	...	...	...	43	18	36	13	26	15
Amantea ..	...	...	...	39	15	0	16	17	0	Marino, San ..	...	...	...	43	54	0	12	27	30
Ancona ..	...	...	...	43	36	0	13	35	0	Marsala ..	...	...	...	37	52	0	12	27	0
Aosta ...	...	...	...	15	41	0	7	25	0	Mazara ..	...	...	Sicily	37	46	0	12	28	0
Aquila ...	...	...	...	42	20	0	13	30	0	Melasso ..	...	...	ditto	38	16	0	15	23	0
Aquino ...	...	...	...	41	56	0	13	50	0	Messina ..	...	...	ditto	38	11	12	15	48	48
Arezzo...	...	...	...	43	28	0	11	50	0	Mirandola ..	...	...	...	44	50	0	11	5	0
Arpino...	...	...	...	41	44	0	13	46	0	MODENA ..	...	...	...	44	34	8	11	12	30
Avellino ..	...	...	...	40	54	0	14	39	0	NAPLES ..	...	...	...	40	50	15	14	15	45
Bari ...	...	...	...	41	15	0	16	52	0	Nice ...	...	...	...	43	41	16	7	16	35
Barletta ..	...	...	...	41	15	0	16	30	0	Nola ...	...	...	...	40	56	0	14	28	0
Benevento ..	...	...	...	41	7	0	14	38	0	Otranto ..	...	...	...	40	30	0	18	20	0
Biella ...	...	...	...	45	28	0	7	56	0	Palerino (observatory) ..	...	Sicily	38	6	44	13	20	0	
Bologna ..	...	...	...	44	30	12	11	21	30	Palestina ..	...	...	...	41	52	0	13	5	0
Bolsena ..	...	...	...	42	37	0	11	54	0	Parma ..	...	...	...	44	48	0	10	20	0
Brindisi ..	...	...	...	40	48	0	17	40	0	Perugia ..	...	...	...	43	6	0	12	30	0
Cagliari ..	...	Sardinia	...	39	13	9	9	5	45	Pesaro ..	...	...	...	43	50	0	13	0	0
Capua ..	...	...	...	41	8	0	14	10	0	Pescara ..	...	...	...	42	20	0	14	10	0
Castello ..	...	...	...	43	28	19	12	13	56	Pesina ..	...	...	...	41	52	0	13	42	0
Catania ..	...	Sicily	...	37	30	0	15	6	0	Piombino ..	...	...	...	42	55	27	10	31	2
Catanzero ..	...	...	...	38	58	0	16	50	0	Placenza ..	...	...	...	45	10	0	9	30	0
Cefalu ..	...	Sicily	...	38	5	0	14	6	0	Potenza ..	...	...	...	40	40	0	15	50	0
Celano ..	...	...	...	42	6	0	13	27	0	Puzzoli ..	...	...	...	40	54	0	14	18	0
Ceva ...	...	...	...	41	23	0	8	15	0	Ravenna ..	...	...	...	44	30	0	12	10	0
Chambery ..	...	...	...	45	34	0	5	55	0	Reggio... ..	...	...	...	38	4	0	16	15	55
Chiarimonte, ..	...	Sicily	...	37	4	0	14	40	0	Rimini ...	...	...	...	44	40	0	12	39	0
Chieta ...	...	...	...	42	22	0	14	30	0	ROME (St. Peter's) ..	...	...	...	41	53	34	12	28	15
Civita Vecchia ..	...	...	...	42	5	24	11	44	45	Salerno ...	...	...	...	40	40	0	14	50	0
Cozenza ..	...	...	...	39	10	0	16	20	0	Sarento ..	...	...	...	40	36	0	14	24	0
Crotone ..	...	...	...	30	0	0	17	40	0	Siena ...	...	...	...	43	10	0	11	12	0
Faenza...	...	...	...	44	17	19	11	21	35	Spoleto ..	...	...	...	42	45	0	13	10	0
Fano ...	...	...	...	43	51	0	12	59	53	Stromboli ..	...	...	...	38	40	0	15	10	0
Fermo ...	...	...	...	43	10	18	13	41	41	Syracuse ..	...	...	Sicily	37	5	0	15	24	30
Ferrara ..	...	...	...	44	49	56	11	36	25	Taranto ..	...	...	...	40	35	0	17	23	30
FLORENCE ..	...	...	...	43	46	41	11	15	45	Terni ...	...	...	...	42	0	0	12	40	0
Foggia ..	...	...	...	41	25	0	15	38	0	Trivoli ..	...	...	...	41	55	0	12	43	0
Frascati ..	...	...	...	41	48	22	12	41	34	TURIN ...	...	...	...	45	4	14	7	40	15
Gaeta ...	...	...	...	41	14	2	13	33	0	Venosa ..	...	...	...	40	58	0	15	50	0
Genoa ...	...	...	...	44	25	0	8	58	0	Viterbo ..	...	...	...	42	24	0	12	25	0
Lecce ..	...	...	...	40	36	0	18	36	0										

MONIES, WEIGHTS, MEASURES, AND EXCHANGES.

Various Monies, Weights, and Measures, are used in the different States of Italy; but the following, which are those most generally employed in the larger States, are all that can be given in this place.

MONIES.

Monies of Account.

ROME.

Accounts are kept at Rome in *Scudi romani*, of 10 Paoli each; except by government, who employ the *Scudi di camera*, of 16 Paoli each.

	s.	d.
5 Quattrini are 1 Bajoccho,	equal to	0 0 $\frac{2}{10}$
10 Bajocchi .. 1 Paolo	....	0 4 $\frac{1}{2}$
10 Paoli 1 Sento or Crown	....	5 9

The exchanges are generally made in the *Scudo di Stampa d'oro*, which is divided into 20 Soldi, and each soldo into 12 Denari.

NAPLES.

Accounts are here kept in *Ducati Regno*, each divided into 100 Grani. The Ducato is also divided as follows,

	s.	d.
20 Grani are 1 Tari,	equal to	0 7 $\frac{1}{2}$
5 Tari 1 Ducat	....	3 2

Other divisions of the Ducat are also in use, but this is the most common, and that in which the bankers keep their accounts.

TURIN.

At the capital of the Sardinian territories, accounts are usually kept in *Lire, Soloi*, and *Denari*, Piedmontese currency; though its late subjection has partially introduced the Franc and Centime.

	s.	d.
12 Denari are 1 Soldo,	equal to	0 0 $\frac{48}{63}$
20 Soldi 1 Lira	....	0 11 $\frac{47}{63}$

FLORENCE.

Accounts are kept at Florence in *Scudi d'oro*, *Ducati*, or *Lire*, each divided into 20 Soldi, and these again into 12 Denari. The Soldi are called *Soldi d'oro*, *Soldi di Ducato*, and *Soldi di Lira*. Accounts are also kept and exchanges transacted, in *Pezze da Otto Reali* (or dollars of 8 Reals.)

	s.	d.
The Pezo is equal 5 $\frac{1}{2}$ Lire,	equal to	4 0
The Ducato or Piastra 7 Lire	....	4 10 $\frac{10}{23}$
The Sento d'oro 7 $\frac{1}{2}$ Lire	....	5 2 $\frac{14}{23}$

The Lira employed, is the *Lira moneta buona*, or effective money, unless the *Lira lunga* is mentioned; 23 of the former are equal to 24 of the latter.

Coins

ROME.

The Coins in circulation in the Papal territories, are very numerous, as almost every Pope issues a fresh coinage. The most general at present are,

Gold.	Intrinsic value.
The Doppia or Pistole equal 31 $\frac{1}{2}$ Paoli,	equal to 13 6 $\frac{1}{2}$
The Zecchino, or Sequin..... 21 $\frac{1}{2}$ ditto	.... 9 3
Silver.	
The Scudo Romani, nearly 10 Paoli,	equal to 4 5 $\frac{1}{2}$
The Testoon	.... 3 ditto 1 3 $\frac{1}{2}$
The Papetto	.... 2 ditto 0 10 $\frac{1}{4}$
The Paoli	.... 10 Bajocchi 0 5 $\frac{1}{4}$
The Grosso	.... 5 ditto 0 2 $\frac{1}{2}$

The halves and quarters of some of these coins are in proportion. The Bajoccho, with its half and quarter, are in copper.

NAPLES.

Gold.	£	s.	d.
The 6 Ducat piece 1733	1	1	6
The 4 ditto, or Pistole 1770	0	13	7
The 2 ditto, or Sequin 1762	0	6	7 $\frac{1}{2}$
Silver.			
Ducat (half in proportion)	0	3	5 $\frac{1}{2}$
Piece of 12 Carlini, 1800	...	4	1 $\frac{1}{2}$
Scudo (Sicilian)	0	5	2 $\frac{1}{2}$

There are also subdivisions of these, with some other smaller pieces; besides the Grano, and some inferior species of copper.

TURIN.

Gold.	£	s.	d.
Pistole, or Doppio, since 1735	1	2	7 $\frac{1}{2}$
Sequin, (half in proportion).....	0	9	4 $\frac{1}{2}$
Carlino, 5 Pistoles, since 1735	0	12	5
Silver.			
Sento, new (1770) parts in propor.	0	5	8 $\frac{1}{2}$
Piece of 2 Lire	...	0	4 11 $\frac{1}{4}$
Piece of 5 Frances	...	0	4 0

There are also subdivisions of these, with small pieces of base silver, and the Soldo and piece of 3 Denari, in copper

FLORENCE.

Gold.	£	s.	d.
Ruspono	1	8	5 $\frac{1}{2}$
Zecchino, or Sequin..	0	9	5 $\frac{1}{4}$
Silver.			
Leopoldone 1790	...	0	4 5 $\frac{1}{2}$
Piece of 10 Paoli 1801	...	0	4 5 $\frac{1}{2}$
Sento Pisa 1803	...	0	4 7
Piece of 10 Lire ditto	...	0	6 8 $\frac{1}{4}$
Lira of 1803	...	0	0 8

There are copper Soldi, Quattrini, and Denari.

CUSTOMARY WEIGHTS.

ROME.

Gold and Silver Weight.

	Eng. grains.
24 Grains are 1 Denaro, equal to	18.18055
3 Denari ... 1 Dram	54.54166
8 Drams ... 1 Ounce	436.33
12 Ounces ... 1 Pound	5236

The pound used for merchandize is the same as that employed for Gold and Silver; but there are three different quintals; viz.

	Avoirdupoise.
Little Quintal of 100lbs., equal to	75.8
Medium ditto 160lbs.	119.68
Great ditto 250lbs.	187

NAPLES.

Gold and Silver Weight.

	Eng. grains.
20 Acini are 1 Trapeso, equal to	13.75
30 Trapesti ... 1 Ounce	41.25
12 Ounces ... 1 Libra, or Pound	4950

Commercial Weight.

	Avoir. lbs.
33½ Oz. gold weight, are 1 Rottolo, equal to	1.96429
100 Rottoli ... 1 Cantaro Grosso	196.429
150lbs. gold weight ... 1 Cantaro Piccolo	136

TURIN.

Gold and Silver Weight.

	Eng. grains.
24 Grains are 1 Denaro, equal to	19.77214
24 Denari ... 1 Ounce	474.53125
5 Ounces ... 1 Mark	3796.25

Commercial Weight.

	Avoir. lbs.
12 Oz. gold weight 1 Libra, equal to	0.8142857
25 Libri, or Pounds 1 Rubbo	20.35714285
70lbs. of Turin, are 57lbs. Avoirdupoise.	

FLORENCE.

Gold and Silver Weight.

	Eng. grains.
24 Grains are 1 Denaro, equal to	18.197916
24 Denari ... 1 Ounce	456.75
12 Ounces ... 1 Pound	5241

The same weight is also used for all kinds of merchandize, as it is the only legal weight in the Grand Duchy; 175lbs. of Florence are, therefore, equal to 131lbs. Avoirdupoise.

COMMON MEASURES.

ROME.

Corn Measure.

	Win. Bushel.
11 Starelli are 1 Staja, equal to	0.656033
3 Staje 1 Quarto	1.96825
4 Quanti ... 1 Rubbio	7.87301

Liquid Measure.

	Eng. Win. gallon.
4 Cartocci are 1 Foglietto, equal to	0.0868
4 Fogliette ... 1 Boccata	0.3471
32 Boccali ... 1 Barrile	11.1072
3 Barrili 1 Brente	33.3216
3 Brenti 1 Botta	99.9648

Long Measure.

	Eng. Inches.
The Roman Foot is equal to	11 $\frac{1}{2}$
The Braccio for Woollens	33 $\frac{1}{2}$
The Canna for ditto	78 $\frac{1}{2}$
The Braccio for Linens	25
The Canna for ditto	82 $\frac{1}{2}$
The Builders' Canna	87 $\frac{15}{16}$

The Canna for measuring Woollens is divided into 8 Palmi, and the Builders' Canna into 10 Palmi.

NAPLES.

Corn Measure.

The measure for corn is the Carro, which contains 36 Tomoli, each equal 1.44928 Winchester bushels; hence, the Carro is equal 5.2176 English quarters.

Liquid Measure.

	Eng. Win. gallon.
60 Cariffi are 1 Barrile,	equal to 11
12 Barrili ... 1 Botta	132
2 Botti 1 Carro of wine or brandy	264
20 Pignate ... 1 Staja, and 16 Staje are 1 Salma of oil, which weighs 325lbs. Avoirdupoise.	

Long Measure.

	Eng. Inches.
12 Onzie are 1 Palmo	10 $\frac{3}{4}$
8 Palmi ... 1 Canna	83

TURIN.

Corn Measure.

		Win. bushel.
8 Coppelli are 1 Mino,	equal to	0.5454
2 Mine.....	1 Stajo	.... 1.0909
3 Staja	.... 1 Saccho	.... 3.2727

Liquid Measure.

		Eng. Win. gallon.
2 Boccali are 1 Pinté,	equal to	$0\frac{5}{12}$
6 Pinté.....	1 Rubbo	.... $2\frac{1}{2}$
6 Rubbi	.... 1 Brenta	.... 15
10 Brenti	.... 1 Carro of wine	150

Oil is sold by the Rubbo of 25lbs. of Turin, or $20\frac{1}{2}$ lbs. Avoirdupoise.

Long Measure.

	Eng. Inches.
The Turin Foot is equal to	$13\frac{3}{11}$
The Raso or Ell	.... $23\frac{1}{2}$

FLORENCE.

Win. Bushel.

8 Mezzeto are 1 Quarto,	equal to	$0\frac{1}{6}$
4 Quarti	.... 1 Stajo,	.... 03
5 Staja	..... 1 Saccho	.... 2
8 Sacchi	..... 1 Moggio	.... 16

Liquid Measure.

		Eng. wine gallon.
2 Quattini are 1 Mezzeto,	equal to	0.13125
2 Mezzeti	..... 1 Boccala	.... 0.2625
2 Boccali	..... 1 Fiascho	.... 0.525
20 Fiaschi	.... 1 Barrile	.... 10.5
10 Barrili	..... 1 Congo	.... 105

Oil is sold by the Barrile of 32 Boccali, which weighs 38 Florence pounds, or 66lbs. Avoirdupoise.

Long Measure.

The Canna contains 4 Bracci, and each Braccio 2 Palme.

	Eng. Inches.
The Braccio for woollens is	.... $23\frac{1}{2}$
The Canna is therefore	.... 93
The Braccio for silk is	.... $22\frac{15}{16}$
That used by builders and surveyors	.... $21\frac{1}{2}$

The Saccata of land is equal to 1 Acre 36 Perches, English measure.

EXCHANGES.

(March 1821.)

ROME

Exchanges with, and gives,

Amsterdam.....	46 Bajocchi	for 1 Florin
Florence	35 Scudi of gold	100 Scudi of gold
Genoa	1 Crown	128 Soldi
Hamburg	40 Bajocchi	1 Mark
Leghorn	93 Bajocchi	1 Pezza of 8 reals
Lisbon	1 Crown, gold	1220 Rees
London	1 Crown	45 Pence sterling
Madrid	1 Crown, gold	570 Maravedis
Naples	100 Crowns	126 Ducats
Paris	1 Crown	107 Sols
Venice	65 Scudi of gold	100 Ducats

NAPLES

Exchanges with, and gives,

Amsterdam.....	54 Grains	for 1 Florin
Genoa	110 Soldi	1 Ducat
Hamburg	50 Grains	1 Mark
Lisbon	1 Ducat	660 Rees
London	1 ditto	33 Pence sterling
Madrid	1 ditto	320 Maravedis
Paris	1 ditto	420 Cents
Rome	126 ditto	100 Crowns
Venice	1 ditto	210 Soldi
Vienna	50 Grains	1 Florin

TURIN

Exchanges with, and gives,

Amsterdam.....	40 Soldi	for 1 Florin
Geneva	90 ditto	1 Crown
Genoa	200 ditto	1 Sequin
Leghorn	65 ditto	1 Pezza of 8 reals
London	415 ditto	£1 Sterling
Paris	65 ditto	3 Francs
Rome	94 ditto	1 Scudo of 10 Paoli
Venice	56 ditto	1 Ducat Piccoli

FLORENCE

Exchanges with, and gives,

Amsterdam.....	1 Pezo	for 89 Grotes Flemish
Augsburg	66 Soldi	1 Florin
Genoa	1 Pezo	115 Soldi F. b.
Hamburg	1 ditto	81 Pence Flemish
Leghorn	1 ditto	122 Soldi
Lisbon	1 ditto	300 Rees
London	1 ditto	13 Pence sterling
Madrid	100 Pezza	150 Dollars
Naples	100 ditto	115 Ducats
Paris	1 Pezo	5 Francs
Rome	105 Francesoni	106 Crowns
Venice	100 Pezza	100 Ducats
Vienna	61 Soldi	1 Florin

TURKEY IN EUROPE.

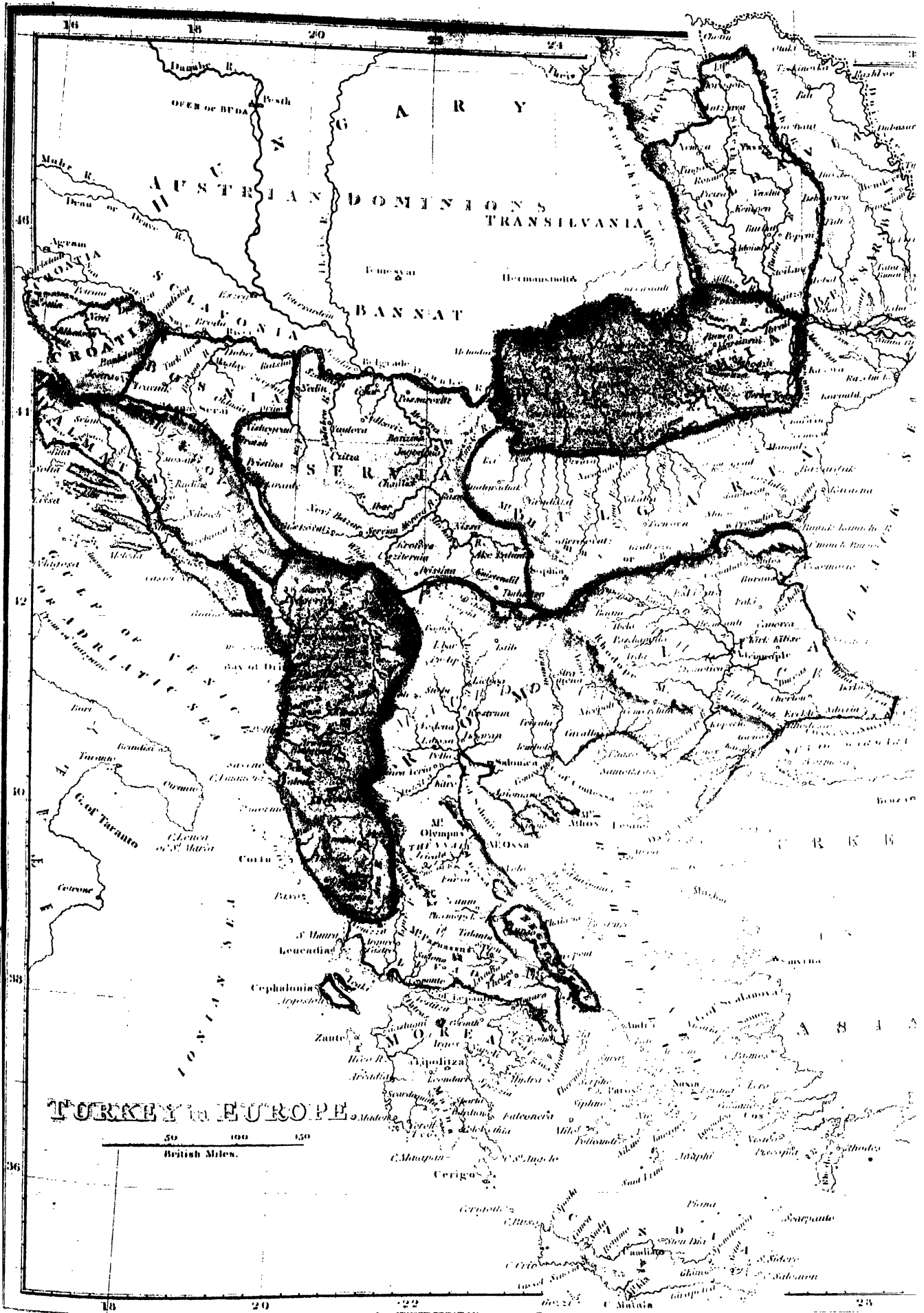
CHAPTER I.

Name—Situation—Boundaries—Extent—Population—Original Inhabitants—Progressive Geography—Present Division and Distribution of the Inhabitants.

MODERN Turkey embraces a multiplicity of ancient Kingdoms and States, in Europe, Asia, and Africa, and derives its name from the *Turks* or *Turkumans*, by whom it was recently conquered, and is at present possessed. These were originally a wandering horde, that emerged from the central deserts of Asia. With all the fury of Moslem conquerors, they over-ran some of the finest countries in the west of that continent, and the east of Europe, and laid the foundation of their empire amidst the wreck of all that was noble in intellect, or captivating in art.

European Turkey occupies the south-east portion of that continent, and stretches from about $36^{\circ} 20'$ to $45^{\circ} 40'$ of north latitude, but only a very small part extends beyond the 45th degree, except the north-eastern extremity, where Moldavia and Walachia form a projecting point, as far as the 48th degree. It is chiefly comprised between the 16th and the 30th degree of east longitude. European Turkey is BOUNDED by the Russian and Austrian dominions on the north; by the Black Sea, Propontis, the Hellespont, and the Archipelago, on the east; by the Mediterranean on the south; and by the same sea, the Adriatic, and the Austrian territories, on the west. Its shape, exclusively of the north-eastern projection, is that of a triangle with very crooked and indented sides, of which the northern may be considered as the base, and the southern extremity of the Morea, the vertex. Estimated on the parallel, where the Austrian and the Russian dominions meet, which is about the middle of the 45th degree of latitude, the base will be nearly 680 English miles in length, and the least distance from the southern point to this line 570 miles; but from the northern extremity of Moldavia to the southern point of the Morea the distance is 870 miles. We shall therefore have 195,000 English square miles for the superficial extent, which will certainly not be too great if we consider the islands as included. With respect to the population of these dominions, a variety of statements have been given; but as no regular census has been taken, and Turkish jealousy precludes any strict enquiry from being made by other nations, these are mere estimates, the mean of which is about eight millions, or nearly 41 persons to each square mile.

The ORIGINAL POPULATION of this part of the Turkish dominions, is ascribed to the ancient Scythians, who emigrated from the borders of the Euxine, and became the progenitors of the Dacians, and the Thracians, with other tribes who inhabited those regions at an early period, and even of the ancient Greeks themselves. The Sarmatic or Slavonic tribes mingled with them towards the north; and they were subsequently augmented by various accessions from more eastern regions. The most remarkable of these tribes were the Turks, who seem very early to have descended



from the Altaian mountains, in Tartary, and gradually extended their conquests towards the west; till, at the close of the 11th century, they were masters of nearly the whole of Asia Minor. But their progress was checked by the Crusades, and they did not enter Europe till about the middle of the 14th century, soon after which they over-spread the regions they now possess, and mingled their warlike hordes with the wrecks of the former people, from the shores of the Mediterranean to the banks of the Danube.

The first dawn of our Geographical knowledge respecting this portion of Europe, must be sought in the classic pages of antiquity. Thence, the PROGRESSIVE GEOGRAPHY is continued in the annals of the Byzantine empire; and the history of the Turks completes the sketch. To trace the geography of ancient Greece might be interesting from its connexion with scenes and events that are early rendered familiar to our minds, but it could be of little service in elucidating a modern system, and would scarcely fail to alloy pleasurable associations with the melancholy contrast between the present and the past. The middle ages are still less interesting, because less luminous and precise, as well as less fertile in those events which throw such a gloom over this illustrious seat of letters, arts, and arms. As connecting the present divisions with the past, it may be observed, that Moldavia and Walachia, the two most northern provinces, were part of ancient *Dacia*. Bulgaria contains the largest portion of the two provinces of *Masia*; while ancient *Thracia*, *Paeonia*, *Macedonia*, and the northern part of *Greece*, are included in the present *Romelia*. The Morea corresponds with the ancient *Peloponnesus*; and Albania comprises the kingdom of *Epirus*, *Chaonia*, and part of *Illyricum*. Dalmatia still retains its original name; but Servia, Bosnia, and Croatia, formed the *Pannonia* of antiquity. The province of Crim Tartary and the Taurica Chersonnesus belonged to this empire till the close of the last century, when they were conquered by Russia. Bessarabia and part of Moldavia, with some other districts on the northern shores of the Euxine, have also lately been annexed to that empire; while Transylvania and Selavonia, with some districts in Moldavia and Croatia, are now included in the Austrian dominions.

European Turkey may with propriety be divided into northern and southern. The latter contains ancient Greece, and forms a peninsula bounded on the west by the Adriatic, on the south by the Mediterranean, and on the east by the Archipelago, while it borders upon *Romelia*, *Servia*, and *Bulgaria* on the other side. These are subdivided into provinces, which, with their chief towns and their inhabitants, are,

NORTHERN DIVISION.

<i>Provinces.</i>	<i>Chief Towns.</i>	<i>Population.</i>
Moldavia	Yassi	40,000
Walachia	Bucharest	80,000
Croatia	Bihatz	6,000
Dalmatia	Mostar	9,000
Bosnia	Bosna-Serajo	12,000
Servia	Belgrade	25,000
Bulgaria	Sophia	70,000
Romelia	CONSTANTINOPLE	400,000

SOUTHERN DIVISION.

Macedonia	Salonica	60,000
Albania	Ioannina	30,000
Livadia	Setines (ancient <i>Athens</i>)	10,000
The Morea	Misitra	5,000.

So deficient are the Turks in statistical information, even in immediate reference to their own country, that the distribution of the inhabitants over its wide-extended surface, and the comparative population of the different provinces, cannot be stated with precision. The part which constituted ancient Thessaly is supposed to be the best peopled

CHAPTER II.

Outlines—General Surface—Mountains—Rivers—Lakes—Climate and Seasons—Soil—Culture—Products.

SCARCELY any European country is so irregular in its **OUTLINES** as Turkey. Much of them is formed of natural limits, and, both by sea and land, are composed of sinuous lines. The shores are indented by numerous gulfs and bays, which sever them into peninsulas, promontories, and capes. The gulf of Lepanto, in the Ionian sea, is the chief inlet on the west, and peninsulates the southern part of Greece, now called the Morea. On the eastern coast of this celebrated country, the gulfs of Coron, Napoli, and Athens, present themselves. The large gulf of Salonica makes a deep opening into ancient Macedonia, while several others indents the upper part of the Archipelago. The most noted Cape is that of *Matapan*, which forms the southern point of the European continent. Besides this, Cape St. Angelo, Cape Colomni, south of Athens, and Cape *Europa*, near the entrance of the Dardanelles, from which some authors have derived the name of Europe, are all distinguished points. Having passed the Dardanelles, the sea of Marmora forms a part of the southern boundary. The Hellespont then intersects the isthmus between that sea and the Euxine, which thence forms a large convex sweep to the mouth of the Danube, and washes the eastern limits of these dominions. The boundary then follows that river to the influx of the *Pruth*, which it ascends north-west to the confines of Moldavia. There winding to the south, it reaches the Carpathian chain, and with it descends to the Danube, which with the Save then divide the Austrian from the Turkish territories to the western limits of Croatia, where, suddenly turning to the south, it joins the Adriatic. Many parts of the coast are composed of rocky promontories and inaccessible precipices, but others form inlets, creeks, and excellent harbours.

Much of European Turkey aspires to the character of a mountainous country. Long ranges intersect it in various directions, and their lateral branches, with several detached hills and groups, diversify many of the other districts. These elevations, which often pierce the clouds, and are covered with perpetual snow, are separated by beautiful vallies and plains, and sometimes by extensive tracts of level country, watered by noble rivers, and smiling with spontaneous vegetation. The description which Mr. Thornton gives of two of the northern provinces may be applied without modification to many other parts. “The attention of the traveller is wholly absorbed in contemplating the beauty of the varied landscape, and the fertility of the soil, which is improved by a rich though very inadequate cultivation. I have traversed both principalities in every direction, and retrace with the greatest pleasure the impressions left on my memory by their grand and romantic scenery; the torrents rushing down the precipices and winding through the vallies, the delightful fragrance of the lime-flower, and the herbs crushed by the browsing flock, the solitary hut of the shepherd on the brow of the mountain, the mountain itself rising far above the clouds, covered over its whole surface, except the snowy region, with a deep bed of vegetable earth, and every where adorned with lofty and majestic forest-trees, or with rich and lively verdure.” One of the principal chains of **MOUNTAINS** in this part of the Turkish or Ottoman empire, is that which stretches from the upper part of the Archipelago nearly to the north-west extremity of the country, and

sends forth various branches on each side. Different names are applied to different parts of this range. The south-east is denominated *Despoto Dag*, which is supposed to be the ancient mountains of Rhodopé a name still retained by some authors as indicating the south-eastern part of this chain. Near the middle it is styled the mountains of *Argentaro*; and farther to the west, those of *Glinbofin*. The range of *Hemus* or *Balken* extends from that of *Argentaro*. About two degrees further west, another ridge stretches from that of *Argentaro* towards the south, in the 24th degree of longitude, to the shores of the Black sea; a branch from which verges to the north-east between those shores and the Danube, and seems to be connected with Mount Pindus, near the centre of Greece, and to terminate on the north of Mount Parnassus. The general aspect of Greece is mountainous, and a number of short ranges, and detached hills, are peculiarly interesting from their classical associations. Among these are *Olympus*, *Ossa*, and *Pelion*. Mount *Athos* is an insulated hill, on a promontory of the Archipelago; but it has principally attracted notice for its conical shape, and for the numerous churches and monasteries that adorn the picturesque declivities near its summit. The celebrated straits of Thermopyke are also formed by a range of high hills running parallel to the shore, opposite the present island of Negropont, which was the ancient *Eubœa*. Helicon and Citheron, in Bœotia, and Parnes, in the north of Attica, are also of ancient fame.

Numerous small Rivers and rapid streams pour from the sides of the mountains, and intersect the lower parts of the country in all directions; but few of the Grecian rivers possess either the magnitude, or the purity which the limited knowledge, or the *Amor Patriæ*, of the poet assigned them. The majestic Danube finishes its course by intersecting the north-east part of these dominions, and receives the numerous streams that descend from the northern declivities of the mountains, with many that flow in an opposite direction through Moldavia and Walachia. The principal of these is the *Pruth*, which forms the boundary line; and the *Sereth* that flows nearly parallel to it. The *Marissa*, which was the Hebrus of ancient geographers, is one of the largest of the Turkish rivers. It rises in the mountains of Hemus, and winds towards the south-east till it passes Adrianople, and then southward to the Archipelago. The length of its course is nearly 250 English miles. The *Vardari* descends from the mountains of *Argentaro*, through a space of about 200 miles, to the gulf of Salonica. Several other rivers have their sources in the same grand central chain, and water the northern districts of the empire. Among these is the *Esker*, the ancient Oeskus, which rises near the source of the Marissa, and enters the Danube after a course of about 120 miles. The *Morava*, the Magnus of antiquity, originates a little to the west of the Esker, and falls into the Danube below Belgrade. The *Drin* is a considerable stream that falls into the Save; while another river of that name enters the gulf of Venice. In ancient Greece, the *Archelous*, the *Peneus*, the *Eurotus*, and the *Pamisos*, are all classical streams. The *Archelous*, now called *Aspropotamo*, rises at a short distance from the town of Metzovo, on the mountains of Pindus. Its course is towards the south, through a mountainous region, which has been little explored by the modern traveller. Passing the gulf of Arta, it continues its progress between the ancient Ætolia and Acarnania, and enters the Ionian sea, near the town of Messaglonia. The ancient Peneus, which is lost in the modern Salymphria, has its source near that of the Archelous, but on the opposite declivity of the range, whence it descends into the plains of Thessaly, and pursues its course to the Archipelago, through the deep and precipitous defiles of Tempe. The *Vissa* also flows from nearly the same place to the gulf of Venice.

Turkey contains several LAKES, but those in the southern part are rather of classical fame than of geographical importance. In the northern regions they are either too small, or too imperfectly known to demand a particular description.

Several occur near the mouth of the Danube, which are formed by the overflowing of that river, but they are destitute of picturesque beauty.

As European Turkey stretches through such an extent of latitude, and presents such a varied surface, encompassed on three sides by the sea, the CLIMATE of its different parts must necessarily vary, but being equally exempt by its situation from the rigours of the pole and the sultry heats of the torrid zone, it is in most parts uniformly salubrious and delightful. The balmy atmosphere of Greece has been celebrated from remote ages, and modern travellers assign to it every influence that is salutary to life, or propitious to man. This general character, however, is modified by local circumstances. In elevated districts, the cold is sometimes severe, and near the marshes, which are increased by the neglect of cultivation, the air is often unhealthy. The SOIL in most parts of Turkey, and particularly in the beautiful vallies and plains that separate the upland tracts, is extremely fertile, and capable of yielding all the vegetable productions of southern Europe in rich and varied profusion. Many of the vallies are composed of fine alluvial earth, the deposit of successive ages. AGRICULTURE, however, is greatly neglected, but grain, silk, cotton, wool, rice, and tobacco, with many delicious fruits, grow almost spontaneously. Under the Turkish government, where the ruling people consider rural occupations beneath their notice, almost every impediment to productive industry exists; and such is the insecurity of property, that a great part of the country is either left without culture, or merely employed as pasturage, which renders the whole produce less than a fourth of what it might be.

In all countries where war is the chief occupation of the dominant people, much attention is paid to the breed of the horse; and those of Turkey have long been esteemed for their size, form, and spirit, but the camel is the most common beast of burden. Cattle and sheep are numerous in many districts, and the sheep of Walachia are noted for their fine form, and beautiful spiral horns. The Turkish zoology, however, does not present any animals unknown in other parts of Europe, except the jackal, which is found in some of the deserted tracts on this side the Bosphorus.

Ancient accounts and physical circumstances combine to show that the country is not destitute of Minerals; but want of skill and enterprise has, for ages, caused this source of individual and national wealth to be neglected. The gold mines of Philippi, however, contributed nearly three millions a year to the treasury of Philip of Macedon. Independently of the valuable metallic veins, which run through many of the interior mountains, others are composed of the finest marble, or the most useful fossil substances. There are also MINERAL WATERS in several places, but they seem to be little frequented.



Constantinople

CHAPTER III.

Principal Cities, Towns, and Buildings—Manufactures and Commerce.

THE Cities and Towns of this empire present a strange contrast with most other parts of Europe. The latter are generally the busy scenes of life in its utmost activity, but when principally inhabited by Turks, their aspect is that of universal indolence. Time is there allowed to proceed with his work of dilapidation without interruption from the efforts of man. Houses falling for want of repairing, the wretched hovels of the lower classes, and the accumulation of filth in the streets, are all characteristics of a Turkish town, over which an air of unbroken monotony reigns undisturbed. In passing through the streets the ear is seldom saluted with the sound of the human voice. The Turk is seen seated on cushions before his door, or reposing in his gallery, in a state of "silence and grave stillness of demeanour which might for the moment sanction even idleness with the name of dignity; his only movement that of raising or depressing his long pipe; his only conversation, if any there be, an occasional brief sentence, addressed in a low and deliberate tone to those who are near him, and answered with the same formal apathy of manner. Or you may see these people, in their progress to the baths or the mosque, treading with a slow, stately, and measured step; scarcely deigning to notice the stranger as he passes them; and by demeanour alone drawing an involuntary homage of respect, which is little due to the intrinsic merits of the man."

CONSTANTINOPLE is the splendid metropolis of this extensive empire, and stands on the site of the ancient *Byzantium*. In reference to population, it is the third of European capitals, but the first in convenience and beauty. It is situated at the confluence of the Bosphorus with the Propontis, or sea of Marmora, and rises gradually on the acclivity which overlooks that sea. The seven hills on which it stands, ascend as they recede from the shore, and a beautiful green hill forms the back-ground. An arm of the Bosphorus affords it an excellent harbour, with an open navigation to the Black sea on the north, and the Mediterranean on the south. The whole circuit of the city is about 12 miles. A wall from fourteen to twenty feet high, flanked with towers, and having six gates, runs along the side next the sea, while the ancient wall, built by Theodosius, encloses the land side. From its great height, crumbling appearance, and ivy-mantled towers, it resembles a succession of ruinous castles, when seen at a distance. The external appearance of Constantinople is extremely prepossessing. Palaces, mosques, seraglios, baths, bazars, caravanseras, domes, turrets, and spires, rise in vast succession. The number of mosques has been stated at more than 300, most of which, as well as many other of the public buildings, are composed of marble, and covered with lead. So fond are the Turks of the dome, that not only the mosques and mesdjidis, or chapels, but the khans, the bezesteins, and the baths, are covered with cupolas. These distinguish them from the private buildings, and add greatly to the external splendour of the city; which, however, is not supported by internal beauty or convenience. Most of the streets are narrow and crooked, and little architectural elegance is displayed in the houses, which are seldom more than two stories high. "Every thing" says Dr. Clarke, "is exaggerated that has been said of the riches and magnificence of this city. Its inhabitants are ages behind the rest of the world. The apartments in their

houses are always small. The use of coloured glass in the windows of the mosques, and in some of the palaces, is of very remote date ; it was introduced into England with other refinements by the Crusaders ; and perhaps we may attribute to the same people, the style of building observed in many of our most ancient dwelling-houses ; where, in the diminutive pannelling of the wainscot, and in the form of the windows, an evident similarity appears to what is common in Turkey."

Constantinople covers nearly as much ground as Paris, but the buildings are lower, and more open spaces intervene. The population is therefore much less, and the most recent estimates of those who have resided at that capital assign 400,000 as the probable number of inhabitants. A three-fold distinction still exists between Constantinople and every other metropolis in Europe. There are no names to the streets, no lamps, nor any post-office.

The grand mosque of *St. Sophia* is the most renowned of its public buildings, and has been represented as a rival to St. Peter's at Rome ; but these representations are too highly coloured. Respecting this edifice, Mr. *Hobhouse* observes, " I know no monument of antiquity which has excited so much curiosity, both amongst the learned and the unlearned, as St. Sophia. For its dimensions and integrity it may be thought incomparably more curious than any other relic of former ages ; but in every other respect it must disappoint any sanguine expectation.—The interior, to which you descend by five steps, seems at first sight magnificently spacious, and not broken with the aisles and choirs, nor deformed by the railings and tombs of modern churches ; but your admiration ceases as you proceed with your inspection.—My general impression was, that the skill of one hundred architects, and the labour of ten thousand workmen, the wealth of an empire, and the ingenuity of presiding angels, had raised a stupendous monument of the heavy mediocrity which distinguished the productions of the sixth century from the perfect specimens of a happier age. The general style of its ornaments shows that it was calculated for nocturnal illuminations. All was gilt and gaudy colouring, and the emperor would have inlaid the pavement with solid gold, if his astrologers had not warned him that the building would be dilapidated by his needy successors. It must indeed have a brilliant appearance when lighted by its myriads of lamps, and its vault may *glitter like the firmament* ; but this is the excellence of a theatre rather than a temple, and may be found where the skill of the architect and sculptor is required in vain." Dr. *Clarke* also says that its gloomy appearance is well suited to the idea we entertain of its present abject and degraded state.

Many of the other mosques of more recent erection, though less in magnitude, are equal in beauty, and display a better taste. The *Seraglio* of the Sultan is one of the peculiarities of Constantinople. It does not merely include the *Haram*, or apartment of the women, but contains the buildings inhabited by the sultan and his court, and the public offices, which are separated from the city by a vast wall, and entered by several gates, two of which are of magnificent architecture. One of these is dignified with the appellation of *the Porte*, a term which is frequently applied to the whole Turkish court. Mr. *Galt* says the Seraglio " presents a confused assemblage of objects, houses, domes, trees, and pavilions. Many of the domes are surmounted with gilt ornaments, and the view is very elegant ; but there is no central point of grandeur for the eye to rest upon. The spectacle, however, tends to fill the mind with the fictitious images of oriental pomp." The number of inhabitants in the Seraglio is estimated at 10,000. About half the people of Constantinople are Turks, one-fourth Greeks, and the remainder Jews, Armenians, and Franks.

Almost every species of manufacture or trade in Constantinople has its distinct quarter. The principal one is a kind of silk stuff generally worn by the Turks, and in the fabrication of which the Armenians are said to employ 10,000 looms. The

harbour is also frequented by Italian, French, Dutch, British, and other vessels. They exchange the manufactures and products of their respective countries for those of Turkey, Russia, and Poland, which are chiefly brought from the Black sea.

Very few of the other Turkish towns deserve more than a brief notice.—**ADRIANOPLE** is the second city in importance, and was formerly the metropolis of the Turkish power in Europe. It stands on the banks of the Marissa, about 140 miles north-west of Constantinople, and was greatly improved by the Emperor *Adrian*, from whom its name was derived. It commands a fertile valley, and carries on a good trade, which is greatly promoted by the Marissa, which is navigable from the sea to this city. Its streets, like most Turkish towns, are narrow and neglected; but the houses, mosques, and other public buildings, resemble those of the capital. The population is estimated at 80,000 and is composed of Turks, Greeks, Jews, Armenians, Walachians, and other oriental tribes.

SOPHIA, which is the capital of Bulgaria, is esteemed the next city in point of population. It is situated north-west of Adrianople, and is a good Turkish town, but cannot boast of either architectural beauty or neatness. The population is about 70,000. **BELGRADE** is a noted town and fortress near the junction of the Save and the Danube, and forms a frontier bulwark and magazine for the northern part of the dominions. Belgrade, however, is more of a military depôt than a trading city. The fortress stands on a steep eminence, which commands the river. The population is computed at 25,000 individuals. **BUCHAREST**, or rather **BUKOREST**, the capital of Walachia, is situated on a river that flows into the Danube, and about 250 miles east of Belgrade. It is a large flourishing town, covering a space of about three English miles in length by two in breadth; but most of the houses are inferior buildings, and the streets are paved with the common Russian log pavement. Mr. Wilkinson, the late British Consul at Bukorest, states its population at 80,000: with 366 churches, twenty monasteries, and thirty large khans, or caravanseras.

YASSI, the capital of Moldavia, is much better built, and contains many houses in the modern European style of architecture, with 40,000 inhabitants and seventy churches. One part of it covers the acclivity of a hill, and the other spreads over the valley at its foot. The prince's palace is an extensive edifice, which Mr. Wilkinson says is capable of lodging "conveniently more than a thousand people." Yassi, as well as Bukorest, covers a large space of ground, as the houses are separated from each other, and surrounded by yards, or gardens, and trees. They are all built with wooden roofs, and their walls plastered and white-washed.

SALONICA, the well known Thessalonica of antiquity, stands at the top of the gulf of the same name, and is not exceeded in commercial importance by any other town in European Turkey, except Constantinople. "The approach to this city from the sea," says Dr. *Holland*, "is very imposing. It is seen from a great distance, placed on the acclivity of a steep hill, which rises from the gulf at the north-eastern extremity; surrounded by lofty stone walls, which ascend in a triangular form from the sea, and surmounted by a fortress with seven towers. The dome and minarets of several mosques rise from among the other buildings, environed, as usual, by cypresses, and giving a general air of splendour to the place. But the interior of Salonica presents the same irregularity, and many of the same deformities that are common to the other Turkish towns." The author just quoted, states its population at 70,000, and describes its commerce as varied and extensive.

The once-celebrated **ATHENS**, now called *Setines*, is reduced to an inconsiderable place, only distinguished by a few mouldering monuments of its ancient grandeur, with about 10,000 inhabitants. Mr. *Galt* says he cannot describe the modern city of Athens in fewer words than by saying that it looks as if three or four villages had been rudely swept together at the northern foot of the Acropolis,

and enclosed within a garden wall of three or four miles in circumference. The buildings occupy about four-fifths of this space. The rest is filled with corn-fields and gardens. The present population is very small. Athens contains 39 parochial churches, and more than 80 chapels. Scarcely another town, worthy of description in a work of this general nature, is to be found in the whole of this classical region, except LARISSA, which was one of the most famed cities of ancient Thessaly. It is situated on a gently rising ground, on the south side of the Salympria, and gives magnificence to the distant view by the rising minarets of its twenty-four mosques. Larissa occupies a large space, and contains about 20,000 people.

The capital of the celebrated *Ali Pasha*, the governor of Albania, is JOANNINA, which stands on a peninsula that projects into a lake near the western base of Mount Pindus. The approach to this city is thus described by Dr. *Holland*. “The lofty palaces of the Vizier and his sons, the minarets of numerous mosques, each surrounded by its grove of cypresses, which give something of appropriate sanctity to the place; the singular intermixtures of houses and trees throughout every part of the city, a circumstance more striking from the want of wood in the general landscape; these, together with the noble situation on the lake, and the magnificence of the surrounding mountains, are the features which will most impress the stranger on approaching the capital of Ali Pasha.” The population of Joannina is about 30,000, but it covers a much greater space than the same number of people would occupy in western Europe.

European Turkey is neither a Manufacturing nor a Commercial nation. Few articles are made in sufficient quantities to supply their own consumption, and scarcely any for exportation, except carpets. Silks are manufactured in several places, but these are chiefly in the Asiatic division of the empire, and will be noticed, with more propriety, under that head. The commercial transactions are almost entirely in the hands of the Greek merchants, or foreigners; and but little of their own shipping are employed. The principal *Imports* are cloths, silks, paper, tin, iron, lead, quicksilver, and other metals, with sugar, spices, camphor, cochineal, dye-woods and various other articles. The *Exports* are chiefly wool, hides, goats'-hair, potash, and wax, with fruit, and other natural products of the country. The fur trade between Turkey and Siberia is also extensively carried on by the Greek merchants. The general trade with Russia through the Black Sea, and the Sea of Azof, is also considerable. The principal articles of Russian produce sent to Turkey are iron, wheat, tallow, sail-cloth, cordage, anchors, sugar, and linens. The returns, are wines, raisins, currants, figs, silk, and cotton.

CHAPTER IV.

Government and Constitution—Laws and Jurisprudence—Army—Navy—Revenue—Political Importance and Relations—Religion—Education—Language and Literature—Arts and Sciences—Manners and Customs.

THE GOVERNMENT of the Turkish or Ottoman empire is an absolute despotism, and the exercise of Sovereign power is only restrained by the precepts of the *Koran*; for in “civil and political matters, the law admits such a latitude of interpretation, that his will alone is sovereign, and is subject neither to controul nor censure.” No stronger proof can be given of Turkish ignorance, superstition, and mis-government, than is afforded by the following paragraph extracted from Mr. *Thornton’s* present state of Turkey.—“At court, when mention is made of the Sultan, the appellation of *Ham-penah* (refuge of the world) is usually added to his title of *Padishah*, or emperor. His loftiest title, and the most esteemed, because given to him by the kings of Persia, is *Zil-ullah* (shadow of God), and the one the most remote from our manners, though common among all ranks of his subjects, is *Hunkiar* (the man-slayer); which is given to him, not, as has been asserted, because as the regular administrator of government he executes criminal justice *by himself*, without process or formality, but because the law has invested him alone with absolute power over the lives of his subjects. The Turkish casuists indeed attribute to the emperor a character of holiness which no immoral conduct can destroy; and as he is supposed to perform many actions by divine impulse, of which the reasons or motives are inscrutable to human wisdom, they allow that he may kill *fourteen* persons every day, without assigning a cause, and without imputation of tyranny. Death by his hand, or by his order, if submitted to without resistance, confers martyrdom; and some, after passing their lives in his service, are reported to have aspired to the honour of such a consummation, as a title to eternal felicity.”

All the immovable wealth of the empire, except the funds appropriated to pious purposes, belongs to the Sultan. The right of succession is fixed by the laws of the empire. It does not descend in a direct line from father to son, but to avoid the inconveniences of a minority, it devolves upon the oldest male of the Imperial house. Should the male line in the Ottoman family become extinct, the succession goes to the sovereign family of the Crim Tartars.

The Laws of the Ottoman empire are the precepts of the *Koran*, with the oral laws of the prophet, and his customs and opinions. They also include the decisions of the early Caliphs and of the Doctors of the first ages of Islamism. These relate to religious, civil, criminal, political, and military affairs; but they are not equally binding. Some of them cannot be transgressed without involving criminality, while others may be slighted with comparative impunity. This code is confided to the Sultan, as Caliph, and chief Imam. When cases occur not directly provided for by the existing code, the Sultan decides. “The Sultan’s delegates are the *Sheik Islam*, or mufti, chief minister of the legal, the judicial, and the religious power, and the grand *Vizier*, who, as keeper of the seal of the empire, exercises all the temporal authority, and presides over the political administration.” The *Ulema*, or law officers from whom the mufti is always chosen, are considered as the hereditary guardians of the religion and laws of the empire. For the execution of these laws, judges are appointed in every city, before whom causes are heard and determined in a primitive and summary manner; but the administration of the law is so defective that justice

can seldom be obtained except between one Turk and another. Executions are numerous in Turkey, and when the party accused is regarded as an infidel, life is sported with in a most cruel manner.

Every Turk considers himself by birth a soldier. Their empire was gained by the sword, and is literally maintained by it. The Turkish Army must therefore be numerous. Various statements have been made relative to its extent, which cannot be implicitly adopted. Vast numbers of those who are usually included in the nominal amount of the Army are merely undisciplined provincial troops, who, however formidable they might be to an invading foe, cannot be considered as a part of the effective and disposable force of the empire, which amounts to about 150,000 men. The NAVY has lately been stated at 20 ships of the line, with fifteen frigates, and a few smaller vessels. Under such a government as Turkey, the REVENUE is not less difficult to ascertain, than the amount of the military establishment. The public income arises from various, and sometimes uncertain, sources. One of the most permanent is a *miri*, or tenth, of the produce of the lands of the whole empire. This is estimated at twenty millions annually, but the greater part of it is spent in the provinces and accounted for to the Imperial treasury among the regular expenses of administration. A property-tax, and a poll-tax, levied on Greeks, Armenians, and Jews, together with the customs, are the other permanent sources of national income, which is annually augmented by confiscations, casual contributions, and imperial exactions. Being fully adequate to the expenses of so extensive a military government, it cannot be less than £10,000,000.

Though the Ottoman army was once the dread of Europe, it is no longer the subject of alarm, even to her weakest states. With so large a portion of the finest countries both of Europe and Asia, a tyrannical and imbecile government has reduced the POLITICAL IMPORTANCE of Turkey to a level with the minor states of Christendom. Notwithstanding the impotency of the Turkish armies in foreign countries, and the slight influence of the Porte, in the general policy of Europe; yet, where every Turk is a soldier, and every soldier abhors subjection, and values independence more than existence, the Ottoman power must still present almost insurmountable obstacles to an invading enemy. This is amply confirmed by the history of past events. The vast power of Russia, though in immediate contact with the Turkish dominions, and never wanting the disposition to extend its territories southward at the expense of the Porte, has not yet been able to render the natural boundary of the Danube the line of demarcation between the two empires. Nor has the grasping hand of Austria been much more successful in the work of oriental subjugation.

In reference to POLITICAL RELATIONS, no country in Europe is so insulated as Turkey. Cut off by the profession of Islamism from the common body, and taught by the precepts of her prophet to despise *all*, whom neither the *Koran* nor the sword could convert to the Mussulman faith, Turkey forms no political compacts with the other states, and has scarcely any connexion with them, but what arises from the exchange of her natural products for such articles as her wants require.

Mahomedanism is the RELIGION of Turkey. Other modes of faith are rather connived at than tolerated, and seldom fail to subject their professors to injury and insult.

EDUCATION, in the general sense of the term, can hardly be said to exist; for though the founding of a royal mosque is always accompanied with a school, yet the course of study which is pursued, scarcely extends beyond the *Koran* and books of law. Any thing like a university, diffusing the invigorating principles of modern science, is totally unknown. Public schools, however, in which several branches of modern literature and science are taught, have lately been instituted in some of the large towns; and it is hoped their number will increase, and their influence be instrumental in removing that ignorance which has so long overshadowed this

fair portion of the globe. The Turkish LANGUAGE is harmonious, regular, and delicate in its expressions ; but intricate and involved in its construction, and defective in scientific and philosophical terms. It is, however, far inferior to the Arabic and Persian, the only two languages with which it has sufficient affinity to admit of comparison. Modern Greek is spoken by the higher classes of Walachians in greater purity than in most other parts of the empire, but the language of the common people, both there and in Moldavia is a barbarous jargon, derived from different sources. LITERATURE, ARTS, and SCIENCES are consequently at a low ebb. On this subject Mr. *Thornton* observes,

“ If we call the Turks an illiterate people, it is not because learning is universally neglected by individuals ; for, on the contrary, the Ulema, or Theological lawyers, undergo a long and laborious course of study ; the Turkish gentlemen are all taught certain necessary, and even ornamental parts of learning, and few children, at least in the capital, are left without some tincture of education. It must be acknowledged, however, that the objects of Turkish study, the rhetoric and logic, the philosophy and metaphysics of the dark ages, do in reality only remove men further from real knowledge. The instruments, without which the acutest natural philosopher would be imperfect, are either entirely unknown in Turkey, or only known as childish playthings, to excite the admiration of ignorance, or to gratify a vain curiosity. The telescope, the microscope, the electrical machine, and other aids of science, are unknown as to their real uses. Even the compass is not universally employed in their navy, nor its common purposes thoroughly understood. Need it, then, be observed that navigation, astronomy, geography, agriculture, chemistry, and all the arts, which have been, as it were, created anew since the grand discoveries of the two last centuries, are either unknown, or practised only according to a vicious routine. The Turks have no books calculated to advance their progress in the arts, or to teach them the rudiments of science.”

Their temples, baths, fountains, and sepulchral monuments, are the only objects upon which art is exercised, and in these, childish ornaments frequently supply the place of dignity and taste.

In thus delineating the present state of the country, the MANNERS, CUSTOMS, and CHARACTER of its inhabitants have been incidentally exhibited. Their ignorance, their apathy, their self sufficiency, and their haughty disdain of all that is not Turkish, or rather not Mahomedan, have already been mentioned, and little remains to complete the sketch of a people who spend one-half of their existence in sleeping, and the other in smoking.—The Turks are in general well made and robust ; and being always accustomed to an abstemious life, are capable of enduring hunger and privations, and of sustaining the fatigue and hardships of war with less inconvenience than many other nations. They are habitually grave and indolent, and require strong excitements to rouse them to action. The Turk, says a correct observer, is “ usually placid, hypocondriac, unempassioned ; but when the customary sedateness of his temper is ruffled, his passions unsoftened in their expression by the influence of female manners, are furious and uncontrollable. The individual seems possessed with all the ungovernable fury of a multitude ; and all ties, all attachments, all obligations are forgotten or trampled upon, till his rage is appeased or subsides.” As in other Mahometan countries, females are secluded and polygamy is allowed and indulged in. The observance of religious ceremonies is strictly attended to. The warm-bath is freely used as a luxury, and contributes to that delicious repose which is the highest gratification of a Turk.

The Turkish women are beautiful, but their beauty is of a different character from that which is admired in the more northern states of Europe. Their dresses too, when abroad, conceal that elegance of shape, and delicacy of form, which many of

them when young possess ; but which, from various circumstances in their manner of life, they do not preserve so long as the females in most other countries. They are described as possessing graceful motion, elegance and suppleness of form, with beautiful symmetry of shape and features. Their education and mode of life, though too confined for the developement of talents which exercise and invigorate the mind, yet leave them all the charms that result from nature, sentiment, and truth.

The Turks are the ruling people, but they are by no means the sole inhabitants of the country. The subjugated nations still exist, and they are also intermixed with others whom inclination or circumstances have induced to settle among them. These are all perfectly distinct from their Turkish masters ; and the relation in which they stand to each other is thus described by Mr. *Semple*.

“ The different races which are under the Turkish government continue as separate and distinct from each other as the first day of their being assembled together. The Turk, the Greek, the Armenian, the Jew, and the Frank, though living in the same city, or even in the same village, inhabit houses differently laid out, eat a different food, speak different languages, wear a distinguishing dress, and worship God with different rites. Over the whole the Turk is the master. The first glance announces it. He is generally tall, robust, and well proportioned, and steps either with freedom or a settled gravity. His countenance, naturally fuller of expression than that of the northern European, is rendered still more martial by his whiskers and turban. Whatever may be his accidental profession, he considers himself born a soldier. It may be said that the subjects of the grand sultan are divided into casts, and that the Turk is the warrior or fighting tribe, which in all countries has ever been prone to abuse its strength, even without the additional incentive of difference in manners, language, and religion. It is not to be wondered at, then, that the Turks should domineer over the Greeks and Jews, whom they regard as tributaries and slaves. Instances of oppression and insult, both general and individual, sometimes indeed occur of a nature so atrocious as almost to exceed belief. Having acquired these fine countries by the sword, they seem conscious that they hold them by no other right ; and go always armed, carrying loaded pistols and a long dagger in their belt, and which, being embossed with silver, they delight to exhibit and handle. They have some traits of a true military character ; are fond of horses and arms ; and detest the sea. They delight in the pomp, noise, and glitter, of war, and they can bind themselves a short time in the hour of battle to its dangers ; but its incessant fatigue soon disheartens them ; and although they insult the Christians at Constantinople and Smyrna, they have learnt to tremble before them on the banks of the Danube, and the borders of the Euxine. This, then, betrays the whole secret of their haughtiness. It is founded on the conquests of their remote ancestors, not on their own tried strength.”

Dr. *Clarke* says, “ the pomp of a Turk may be said to consist in his pipe and his horse : the first will cost from twenty to twenty thousand piastres.—A saddle-cloth embroidered and covered with jewels, stirrups of silver, and other rich trappings, are used by the grandees to adorn their horses.”

Mr. *Thornton* has given a good idea of Turkish superstition in the following paragraph ; “ In Turkey the barge of the sultan, as well as the pile of firewood in the court-yard of a public bath, is preserved from accident by a head of garlic. Every object which can possibly attract attention or excite jealousy, is secured by some counteracting influence. The eye of the malicious observer is seduced into benediction by the sacred exclamation *masch-allah*, written in conspicuous characters, and placed the most obviously to view in the front of a house. The horse carries his rider with safety among the envious populace, while a string of blue beads

dangles on his chest. But the anxious mother doubts even the effects of the talisman, and spits in her infant's face, that it may escape unhurt from the admiration of the childless, or the jealousy of less happy parents."

The Greeks also form a prominent portion of the population of European Turkey; and though a fallen, they are still an interesting people. The splendid renown of their forefathers affords a striking contrast with their present abject condition; but the revolution of ages, which has destroyed this political state, has made little alteration in their physical and moral character beyond that pusillanimity which oppression and tyranny seldom fail to produce. Dr. *Holland* thus describes their personal appearance.

"Comparing the Greeks generally with other people in the south of Europe, they have, I think, a manifest superiority both in countenance and form. Making every allowance for dress, there is a breadth and manliness of figure, which may be considered, I believe, as national; and an outline of countenance which is equally national, and which strongly brings to mind the sculptures of ancient Greece. The facial angle is larger than in most other communities; the features are usually broad, open, and animated. The Turkish physiognomy, though itself handsome, is evidently different from the Greek, and it is singular to the traveller, to see on one soil an intermixture of two people, so striking, and at the same time so distinct in their respective characters, physical and moral."

Of the Costume of the same people, Mr. *Semple* gives the following brief sketch. "Their physiognomies are expressive, but still less so than those of the Turks, and the women when young are beautiful and sprightly, but their beauty is of short duration. They are fond of wearing flowers on their head; and a robe sitting close to the body, and flowing loose behind, forms the Asiatic part of their dress, the remainder being very similar to that used by women in England and France. The men dress in short jackets and vests, with loose trowsers, which come just below the knee; and the common people, like the Turks, have the legs bare, with only a pair of slippers on their feet. They seldom shave their upper lip, which, with the bushy hair, and a little red cap on the crown of their heads, serve often to give them a wild look, but not a dignified or martial air."

The two northern principalities of Walachia and Moldavia, which extend about 350 miles in length and 160 in breadth, form a kind of distinct appendage to the Turkish empire. They are separated from the rest by the Danube and the Black sea, and composed part of the ancient kingdom of Dacia, finally conquered by Trajan. The present inhabitants are the descendants of Goths, Huns, Tartars, and other barbarous tribes. They are governed by princes, called *Hospodars*, who are always Greeks, and appointed by the sultan. Most of the inhabitants of these two provinces profess christianity; but both boyars (nobles) and peasants are free from the capitation tax paid by other *Rajahs* or tributary Christians.—Mr. *Wilkinson* gives the following account of the present state of the people in these provinces. His remarks chiefly refer to the lower classes. The Boyars resemble the Barons in the feudal times of Europe.

"Their religious notions, grounded upon the most ridiculous superstitions, are extremely singular. They firmly believe in all sorts of witchcraft, in apparitions of the dead, in ghosts, and in all kinds of miracles performed by the images of saints, and by the virtues of the holy water. In illness, they place an image near them, and when they recover, though it were through the assistance of the ablest physician, they attribute their return to health to the good offices of the image alone. Their observance of Lent-days is so strict that the threats of instant death would hardly prevail upon any one to taste the aliments specified in the endless catalogue of forbidden food. Their other christian duties, although similar to those of the superior classes of their countrymen, are carried to greater excess. Invoking the Holy Virgin, or any Saint,

is always substituted to regular prayer. Divine providence is never directly addressed.

"The villages throughout the country are principally composed of peasants' huts, all built in the same style and of the same size. The walls are of clay, and the roofs thatched with straw, neither of which are calculated to protect the lodgers from the inclemency of the bad season. The ground floors are, however, occupied as long as the weather will permit, and in winter they retire to cells under ground, easily kept warm by means of a little fire made of dried dung and some branches of trees; which at the same time serves to cook their scanty food. Each family, however numerous, sleeps in one of these subterraneous habitations, men, women, and children, all heaped up together; and their respective beds consist of one piece of coarse woollen-cloth, which serves in the double capacity of mattress and covering.

"Their ordinary food is composed of a kind of dough to which they give the name of *mammalinga*, made of the flour of Indian wheat, sometimes mixed with milk. The first two or three days after a long Lent, they sparingly indulge themselves in meat; but the greater part cannot afford even so great a treat, and content themselves with eggs fried with butter, and the milk to their *mammalinga*.

"They continue the whole day out of doors at work, and they bear with indifference all the extremes of the weather. Their industry, however, is not of a very active kind, and they take frequent rest.

"Notwithstanding this mode of life, and the supposed influence of an ungenial climate, the generality of the peasants are a fine race of people. They have no peculiar turn of features which may be called characteristic; from long intercourse with foreign nations, their blood seems to have become a mixture of many. The Eastern black eye and dark hair, the Russian blue eye and light hair, the Greek and Roman nose, and those features which distinguish the Tartars, are equally common amongst all the orders of these two nations.

"The dress of the male peasants bears some resemblance to that of the Dacians, as represented in the figures on Trajan's pillar at Rome. Their feet are covered with sandals made of goats skin. They wear a kind of loose pantaloons which is fastened to the waist by a tight leather belt, and closes from the knee downwards. The upper part of the garment is composed of a tight waistcoat, and a short jacket over it, of coarse cotton stuff, and in winter is added a white sheep-skin, which is hung over the shoulders, in the manner of an hussar's pelisse. The head is not deprived of any part of its hair, which is twisted round behind, and a cap is used to cover it, also made of sheep-skin, but which in summer is exchanged for a large round hat. The beard is shaved, and the whiskers alone are left to their natural growth.

"The women are clothed from the neck to the ankles with a long gown of thick cotton stuff, of a light colour, made tight at the waist in such a manner as to render the whole shape visible. They generally go bare-footed, and they cover their heads with a common handkerchief, merely meant to keep up the hair. On holidays they add to their common shift a coloured gown of a better sort: they button it up from the waist to the neck, round which they wear as an ornament, one or more strings of beads, or *paras* pierced through for the purpose."

In addition to the natives, these two provinces contain about one-hundred and fifty thousand gypsies, who are distinguished by the same propensities as their brethren in other parts of the globe; but they are kept in a regular state of slavery by the government, and part of them are considered as its property, while the others belong to the Boyars. They employ them as household servants, as well as in the vineyards and other work, and suffer the remainder to lead a vagrant life on condition of paying an annual tribute. They are not publicly sold, but private purchases are frequently made, and the price for either sex is thirty or thirty-five pounds. Their chief characteristics seem to be depravity, filth, and indolence.

CHAPTER V.

Antiquities and Curiosities of Nature and Art—Islands.

THE ANTIQUITIES of Greece, like those of Rome, form a boundless theme, and have already filled so many splendid volumes, that any summary that could be given in this place would be unworthy of the subject. Athens was the chosen seat of the *Arts* in the most glorious period of the Grecian empire; but, like the ancient mistress of the world, she has sunk beneath barbaric fury; and though time has done much to *despoil*, man has done more to *destroy*, the monuments of her architectural glory. The ground, however, is still trodden with enthusiastic delight by the classical antiquary; and fresh exertions may yet produce fresh discoveries. The celebrated temple of Santa Sophia, at Constantinople, which is dedicated to the Divine Wisdom, has been preserved by its conversion into a mosque. This structure was raised by the Emperor Justinian in the 6th century, and its interior is decorated with a profusion of marble pillars of various colours; among which are distinguished the Phrygian purple, the Spartan green, and the Carian red and white, with the African saffron. At Athens, besides the remains of Adrian's Temple, the Acropolis, and the Pantheon, the ruins of various other edifices are still visible. Those of Neptune's Temple, and the theatre in which the Isthmian games were celebrated are still to be seen on the Isthmus of Corinth; as well as the relics of the Temple of Apollo at Castri. The magnificent ruins of an amphitheatre a few miles south-east of Joannina is considered as the only remaining vestige of the ancient splendour of Epirus, and of the seventy cities, which *Polybius* says a decree of the Roman Senate, despoiled in one day, and at the same hour, of their wealth, their ornaments, and their people. This amphitheatre seems to have been a magnificent structure, composed of stones of that massy size which constituted one characteristic of Greek architecture.

NATURAL CURIOSITIES doubtless abound in many parts of the calcareous mountains that intersect the interior of Turkey; but almost the whole of those chains that stretch from the Adriatic to the Euxine, and from the borders of the Mediterranean to the banks of the Danube, are nearly unknown. A few hasty sketches, of the maritime provinces are all that are brought home by travellers. One of the most complete of staketical caverns, yet known, is the noted grotto of *Antiparos*, which will be described with that island. Mount Athos, with its conical summit, rising about 3300 feet above the level of the sea, and grotesquely adorned with churches and monasteries, is usually mentioned among the natural curiosities of ancient Greece. South of the celebrated Parnassus is supposed to be the Castalian spring; and in Livadia the oracular cave of Jupiter Trophonius. The celebrated *Corycian Cure*, in the ascent of Mount Parnassus, to which the Delphians retired when the barbarians invaded Phocis lives rather in ancient fame than in modern description. The insulated and pointed rocks at Meteora in the vale of the Penens, deserve to be classed under this head. The beds of mineral pitch at Silenitza, on the left bank of the river Viosa, which extend over a space of several square miles, and are reported to be in some places 70 or 80 feet thick, are also among the valuable curiosities of this country. These beds lie within a few feet of the surface, and were lately visited by Dr. Holland, who also describes the inflammable springs in the same neighbourhood, mentioned by many authors of antiquity. About a mile from the shaft of the pitch

mine into which the Dr. had descended, he found a space fifteen or twenty yards in circumference denuded of vegetation, and covered with stones or earth, apparently decomposed by sulphureous vapours. The surface was sensibly heated. In one part of it a streamlet of water issued from the ground and formed a small pool or basin, through which rose numerous air bubbles. The gas issuing from these was set on fire, and the flame spread in several directions, from the quantity of the same gas that arose from the crevices of the ground. The gas often takes fire from natural causes, particularly after heavy rains, and continues to burn for several weeks. Springs of Naptha have also been discovered in other parts of the Turkish dominions.

Numerous ISLANDS encompass the coasts of Turkey, and sprinkle the adjoining seas, particularly the Ægean Sea, which flows between Europe and Asia, and now constitutes the Archipelago. Those on the west of Greece, forming the *Republic of the Ionian Isles* will be the subject of a separate article.

The largest of the Turkish Islands is CANDIA, the ancient *Crete*, which is situated south of the Archipelago, and is nearly 180 miles from east to west, and about 30 at a medium breadth, from north to south. Much of it is covered with rocky mountains, the most remarkable of which is the lofty Psilorite, the snowy *Ida* of antiquity, and the fabled residence of Jupiter. This range pervades the island from east to west, and divides it into two distinct parts. It abounds with the gum called dragant, and near it is the Cretan labyrinth. The whole population of Candia is nearly 300,000 persons, and is principally composed of Turks and Greeks, with a few Jews. The climate is salubrious, and the soil in the plains and vallies, is frequently fruitful, but the insecurity of property under the Turkish government causes it to be greatly neglected. Little corn is raised, but the island produces abundance of fruit and oil, with wine, raisins, saffron, honey, and wax. The hilly tracts are grazed by cattle and sheep. The northern part of the island is best cultivated and improved, as the southern districts are almost excluded from foreign intercourse by the inaccessible nature of the coast.

Candia was early visited, and perhaps colonized by the Phœnicians, and appears to have been among the first districts of Europe that were tinctured with civilization. From the Grecian history it seems to have been originally governed by its own kings, and afterwards to have had a republican form of government, till conquered by the Romans. It was during the first of these periods, that *Minos*, the most renowned prince of his time, was king of this island, and is represented as giving wise laws to his subjects about 1406 years before the Christian era. *Crete* was not only celebrated for the excellence of its laws, but for the bravery of its inhabitants and its hundred cities. But nations are effaced from the earth like the monuments of their power, and succeeding ages can only trace in their posterity the vestiges of their former grandeur. This has been peculiarly the case with ancient *Crete*. The cities and institutions of *Minos* have vanished before the mouldering hand of time, or the rude dilapidations of man; the bravery of the ancient Cretans has been vanquished by the cimeter of the Caliph; and the very place where St. *Paul* planted the cross, has long been surmounted by the crescent.

Candia is the capital and is situated near the northern shore. Its harbour is formed by two projecting rocks, but has been greatly diminished by the accumulation of sand. The town, though possessing no architectural beauty, is a commercial place. It has a noted manufacture of soap, and is the residence of the governor of one of the districts into which the island is divided, as well as of the military commandant of the whole. Candia is defended by walls, trenches, and out-works, and is noted for the 24 years' siege by the Turks, from 1644 to 1669. The population is about 15,000.

Canea is also a large town, beautifully situated near the extremity of the same

coast, and is supposed to have been founded by Minos. The walls of the town are about two miles in circumference, and the port is defended by a wall and castle, and provided with a light-house. There is likewise a dry dock, that was constructed, while the island was subject to the Venetians. The town is well-built, and the population about 8000.

NEGROPONT, the ancient *Eubœa*, is the next island in size and importance. It is separated from the coast of Livadia by a narrow channel, called the strait of *Euripus*, which is remarkable for the irregularity of its tides. The greatest breadth of this channel is about 36 miles; but in the narrowest part, over which a bridge is thrown, it is less than 100 yards.

During two or three days before a new moon, the phenomena of the tides are regular, but as soon as the change has taken place, the tide alternately ebbs and flows from five to ten or twelve times a day. The extreme length of the island from south-east to north-west, is about 100 miles and its breadth twenty; with a population of nearly 60,000 inhabitants, most of whom are Greeks. The central regions are covered with barren mountains, the highest summits of which are clad in snow during the greatest part of the year. Most of the remainder is composed of fertile districts abounding in corn, wine, oil, fruit, and honey. Much cotton is also produced. The pastures of Eubœa have been celebrated from remote ages, and cattle are numerous in Negropont. The mountainous part likewise produces marble and copper. This island has several commodious harbours. One of the principal is at *Negropont*, the present capital and the ancient *Chalcis*, which is situated on the west coast, and near the narrowest part of the channel. The town is fortified, and its port is the usual station of a flotilla of Turkish galleys. Turks and Jews alone are allowed to live in the city. Christians are restricted to the suburbs, which are separated from the town by a deep ditch, and are chiefly inhabited by Greeks. The population of the whole is about 16,000. *Orens* is a small town near its northern shore, and *Carysto* another, near the southern extremity of the island.

Most of the other islands on the European side of the Archipelago form a group under the general name of the *Cyclades*. Those on the opposite side of the Ægean sea were called *Sporades*, and will be described with the Asiatic part of the empire. Several isles of the first group, though small in extent, were anciently of great fame. ANDROS in the northern part, is separated from the southern extremity of Negropont by the strait of Silota. It is one of the largest of the Cyclades, and contains a population of about 10,000 persons, spread over the surface in forty or fifty small towns and villages. It yields wine, oil, and grain enough for home consumption, and oranges, lemons, figs, pomegranates, and other fruits for exportation. One of its principal products, however, is silk, used in tapestry, and of which 170 cwt. is annually exported. Andros is an appanage of the Sultana, and yields a revenue of about 30,000 piastres. The capital has the same name. It is situated on the east coast, and is the principal trading place in the island.

TINOS is a smaller island south-east of Andros, which it resembles in its principal products. Some parts of it are mountainous, the others are well cultivated. The inhabitants are mostly Greeks, and the chief places, *Tinos* and *St. Nicoli*. There are also several villages. In the same direction is MYCONI, which lies between Tinos and Naxos. It is about 20 miles in circumference, and presents a mountainous aspect, but produces good wine and fruit. Much of the island is in pasturage, and cheese is one of its exports. The population is about 1000, who are chiefly Greek christians, and are reckoned the best sailors that navigate these seas. A Turkish officer goes annually to Myconi to collect the tribute. The principal town and port is *Myconi*.

SYRA and THERMIA are two small islands west of Mycon, which they resemble

in aspect and productions. The former presents the ruins of an ancient city, and the latter takes its appellation from the number of its hot-springs. The name of each island is also given to its principal town. A few miles north of Thernia is ZEA, and about the same distance south is SERPHO. The latter was the ancient *Seriphus*, and is so rugged and precipitous that it gave rise to the poetical fiction of Perseus turning the inhabitants into stone. It yields iron and load-stone, and was a place of banishment with the Romans,

South of Myconi are the two larger islands of NAXOS, or NAXIA, and PAROS. Both lie in the same parallel, and are separated by a channel a few miles in width. The former is the most extensive, and contains a surface of about 170 square miles, with nearly 10,000 inhabitants, who are principally Greeks; but as the island was long possessed by the Venetians, they are intermixed with Italians. Naxos is hilly, but the plains and vallies yield the common products of the Archipelago in tolerable abundance. The inhabitants still preserve their ancient laws, and choose their own rulers, but the Porte sends an officer annually to collect the taxes. NAXIA is the only small town, but there are a number of villages. Part of the inhabitants are employed in the fisheries that are carried on near the coast.

PAROS is situated west of Naxos, and is about 40 miles in circumference. Its appearance and products are similar to those of the adjacent islands, but the number of sheep pastured on its upland tracts is much greater, and the whole population is estimated only at 2000. The central situation, with respect to the other islands, as well as the shores of Greece, Asia, and Egypt, with its excellent harbours, would render it a commercial station of importance in the hands of an enterprising people. But these advantages are now altogether neglected. Its ancient fame arose principally from its beautiful white marble, which has now been supplanted by that of Carrara, which is finer grained, and easier to work. The *Apollo Belvidere*, the *Venus de Medicis*, and several other celebrated pieces of ancient sculpture, are of Parian marble. Paros was not only distinguished in early times for its marbles, but for its sculptors, as the renowned statuary Phidias and Praxiteles were both natives of Paros, as was the poet Archilochus. The *Arundelian Marbles*, now belonging to the university of Oxford, and esteemed the most ancient piece of chronology in existence, were brought from Paros by the Earl of Arundel, in 1627, and subsequently presented to that university. *Parecchia* is the chief town, but *Naussa* is the best harbour, and capable of containing a hundred vessels.

ANTIPAROS is separated from the last island by a channel about four miles in width, and is nearly sixteen miles in circuit. It is only celebrated for its famous grotto, which is about two miles from the southern shore. Its entrance is in the side of a rock, and is at first narrow, rugged, and steep. After descending about 300 yards, sometimes by means of ladders or ropes, the subterranean visitant arrives at the grotto, the height of which has been variously stated; some travellers estimating it at 80, and others at 60 yards. Its breadth is 120 yards. Masses of Stalactical marble impend from the roof in the most elegant and picturesque forms; while large piles lie on the floor, which have been produced by the liquified matter dropping from above.

South-west of Paros is the island of MILO, the *Melos* of the ancients, with its basaltic rocks, and miniature volcano. A bay deeply indents the northern side, and causes it to resemble two small isles joined together by a narrow isthmus. The soil is fertile, and the population only about 1000.

Nearly east of Milo, is the crescent-shaped SANTORINI, or, as it is sometimes called, STANT ERINI. It is about 12 leagues in circumference, and M. *Tournefort* says that nothing can be of a more dry and barren nature than its soil; yet the perseverance and ingenuity of the inhabitants have converted it into a perfect

orchard, though the greater part is a mere bed of pumice stone. Wine, cotton, figs, and barley are its chief products. The wine is of a good quality, and much esteemed in the Levant. Some of the cotton produced is also manufactured on the island, which gives employment to many of its industrious inhabitants. These occupy several small towns and villages, and have been stated at nine or ten thousand.—The long narrow STANPALIA lies near the line that separates Europe from Asia, which runs between it and the island of Cos, near one of the promontories of Anatolia. A number of other small rocky isles belong to this group, but they do not contain any thing peculiar, except DELOS, near the western shores of Myconi, which still exhibits ruins of temples and other edifices formerly dedicated to the gods of the heathen Greeks, by whom it was regarded as sacred ground.

The other islands, belonging to European Turkey, are situated in the upper part of the Archipelago. Opposite to the island of Negropont is SKYROS, or *Sciros*. It is much indented with bays and creeks, and is about 60 miles in circuit. The surface is mountainous, but sufficient corn is grown for the support of the inhabitants, and its wine is much approved. A group of small islands lies near the entrance of the gulf of Salonica; north-west of which, and nearly at an equal distance from the entrance of the Dardanelles on the east, and Mount Athos on the west, is LEMNOS. This island is about fifteen miles long, and eleven or twelve broad, and was anciently dedicated to Vulcan, because of its two volcanoes, which almost constantly emitted flames. Towards the north it is hilly and barren, but the southern districts are more level and fertile. It produces corn, oil, silk, cotton, and fruit. The air is pure, and the population is about 8000. A small town of the same name is the capital. It is the see of a bishop, and has a tolerable harbour, with about 2000 inhabitants. Near the upper extremity of the Archipelago is the island of THASOS, anciently called *ÆRIA*, or *ÆTHRIA*. It was celebrated for its gold mines. Thasos is about twelve miles long, and eight broad, and produces delicate wines and fruits, with most of the necessaries of life. It has quarries of excellent marble. *Thasos* is likewise the name of the chief town, which has a good harbour frequented by the small vessels that trade in the Archipelago.—None of the other small islets deserve notice.

UNITED STATES OF THE IONIAN ISLES.

THE islands which constitute this small Republic are situated near the south-west coast of Greece, and are frequently mentioned in ancient history, as well as celebrated by the prince of ancient poets. They were not, however, as at present, under one government, but belonged to different chiefs. When the maritime power of the Venetians gained its ascendancy, these islands became an appendage to that state, and continued so for many centuries, till they were taken possession of by the French. They were afterwards ceded to that power by the treaty of Campo Formio, in October 1797. The loss of their fleet at Aboukir Bay, in the following year, and other circumstances, led to the expulsion of the French, and the formation of a republic, under the joint protection of Russia and Turkey, and subsequently under that of Russia alone. They were then ceded to France a second time by the treaty of Tilsit, in 1807, and were immediately garrisoned with French troops; but they were all taken by the English during the war, except *Corfu*, the strong fortress of which enabled the French to keep possession of it till after the abdication of Buonaparte in 1814. By the definitive treaty between Great Britain and the allied powers, signed at Paris on the 5th of November, 1815, these islands were formed into a "single, free, and independent state, under the denomination of the UNITED STATES OF THE IONIAN ISLES," and consigned to the protection of Great Britain, who appoints a Lord High Commissioner, and sends a garrison for their defence.

The islands comprised in these states are Corfu, Cephalonia, Zante, Santa-Maura, Ithaca, Cerigo, and Paxo, with their dependencies. Corfu is the most northerly, and lies on the 39th degree of latitude, near the coast of Albania. Paxo, Santa-Maura, Ithaca, Cephalonia, and Zante, succeed each other in regular succession, from north to south, spreading along the coast of Albania, and the ancient Elis. Cerigo is more detached from the others, being about 150 miles south-east of Zante, and nearly opposite the southern extremity of Greece. The whole extent of these is estimated at about 150 square miles, and the total population at 210,000. The islands, with their chief towns, population, and the number of members each sends to the legislative assembly are,

<i>Islands.</i>	<i>Population.</i>	<i>Representatives.</i>	<i>Cities.</i>	<i>Inhabitants.</i>
Corfu	70,000	7	Corfu	15,000
Cephalonia	60,000	7	Argostoli	4,000
Zante	40,000	7	Zante	18,000
Santa-Maura	20,000	4	Santa-Maura	5,000
Cerigo	10,000	1	Cerigo	1,200
Ithaca	8,000	1	Vathi	2,000
Paxo	6,000	1	Paxo	3,000

CORFU, though not the largest of these islands is the most important, as being the permanent seat of the general government. It is situated near the entrance of

the gulf of Venice, and is separated by a narrow channel from the coast of Albania. Its length is about 45 miles and breadth 20. Corfu was the *Corcyra* of the ancients, and the *Phacæa* of Homer. It enjoys a mild, pleasant, and temperate climate, but has often been visited by earthquakes. It is intersected by a deep bay on the east, which divides it into two peninsular portions. The general aspect is mountainous, but the vallies and small plains are fertile, producing wine, oil, oranges, lemons, figs, honey, and wax. The northern part is the most productive, and its figs, called *fracazzoni*, are held in high estimation. Salt is also one of its products.

The capital of this island is *Corfu*, where the Lord High Commissioner resides, and the legislative assembly meets. It is situated on the eastern coast, and spreads in the form of an amphitheatre over the northern acclivity of a promontory which forms one side of the harbour. Corfu is a strong, but not a handsome town. It is protected by two citadels, one of which is the residence of the governor, and is separated from the city by an esplanade; the other is the fort. Opposite the harbour is the small island of *Vido*, which is protected by a triple row of batteries, and forms a strong out-work in the defence of Corfu, as was manifested by its remaining in the possession of the French till the abdication of Buonaparte, while all the other islands yielded to the superiority of our naval force. The harbour admits only merchant vessels and sloops of war, but the road opposite its entrance is extensive and secure, and the city is not only the capital but the chief emporium of the island. The present population includes about 15,000 individuals, independently of the military which compose its garrison.

CEPHALONIA is the largest of these united islands, and is situated in the southern half of the 39th degree of latitude, and is nearly opposite the entrance of the gulf of Lepanto or Corinth. It is about 150 miles in circumference, and the most striking feature in its general aspect is the Black mountain, which was so called from the forest of pines that covered a great part of it. *Mount Enos*, mentioned by Strabo, is the highest point, which Dr. Holland estimated at 4000 feet. On this summit once stood an altar, dedicated to Jupiter *Ænesius*, some of the stones of which are said to be still visible. On the southern side, where it rises by a single majestic elevation from the base to the summit, it displays the white lime-stone rock of which it is composed. Other hills stretch from this point across the centre of the island, and an insulated hill further south is crowned by the strong fort of St. George. The whole number of inhabitants is about 60,000; and the most populous part is that which surrounds the bay of Argostoli, indenting the southern coast, and peninsulating the south-western extremity. There is also a considerable population on the north-east coast, opposite the little island of Ithaca, and it was in this district that the ancient city of *Samos* stood. The general fertility of Cephalonia is much less than that of some of the other islands, the soil in most places being scantily spread over the vast mass of limestone rock of which it is composed; yet it produces wine, raisins, currants, oil, citrons, lemons, pomegranates, and cotton; but the grain used is chiefly imported. The raisins are preferred to those of any of the other islands, or even to the Morea, and about 2500 tons are annually produced by the superior industry of the inhabitants. Between twenty-five and thirty thousand casks of oil, with an equal quantity of wine, and five or six millions of pounds of currants, are annually obtained. Some coarse cottons, and a few other articles are also manufactured in the island, and many of the inhabitants are engaged in commercial transactions. More than two hundred small vessels, belonging to the island, trade to the Levant and other parts of the Mediterranean.

Argostoli is the capital and the seat of the local government. It stands on a bay near the southern shore, and has a good harbour; but is only a small town with about 4000 inhabitants.

ZANTE is situated a few miles south of Cephalonia, and is less extensive but more productive. The circumference of Zante is about 60 miles, and its population nearly 40,000. Its picturesque beauty is proverbial. The greater portion of its surface consists of a single plain, which occupies the centre of the island, and stretches from the northern to the southern shore. This plain is about seven or eight miles broad, and is bounded on the west by a ridge of hills, which forms the coast, and on the east by Monte Scopo, and the hills about the city of Zante, which rise between it and the channel that divides it from the shores of Greece. Two bays break into the general outline of the coast, and they both afford good anchorage. The description which *Dr. Holland* has given of the Zantiote scenery will enable the reader to judge how far it deserves the epithet of the 'flower of Levant' which has long been applied to it. "Looking down upon this plain from any of the surrounding eminences, it has the aspect of one continued vineyard, with a few intervals only of land occupied in tillage or pasture. There is an air of luxuriant fertility and richness in the landscape, the effect of which is increased by the neatness employed in the distribution and culture of its surface. Numerous villages and country-houses are scattered over the plain, surrounded by gardens, or by groves of olive, orange, and other fruit-trees. The sides of the hills which form its boundary present every where this mingled scenery of wood and cultivation, particularly on the declivity of Monte Scopo, and the eminences adjoining the city, where the groves are of greater extent, and broken by many deep valleys which afford an infinite variety of surface. The range of hills on the western side of the island is more uniform in its outline, with an elevation varying from 1000 to 1300 feet above the sea. Their slope into the plain is likewise extremely beautiful; and the limit they give is one that harmonizes well with the other parts of the scenery. On the whole it is probable that there are few spots in the world possessing a more entire and finished beauty than the little island of Zante." The climate of Zante possesses a peculiarly balmy softness; but there is scarcely any place more subject to earthquakes. It is not uncommon to experience two or three in a month; and in 1811, for thirty or forty successive days, several shocks were felt every day. Zante, like most of the other islands, is chiefly composed of calcareous rock. Gypsum also appears in many parts of its surface. It is principally of the grey foliated kind, and forms several of the projecting points. The pitch wells are natural phenomena that were known and described as early as the time of *Herodotus*. They are situated about ten miles south of the city, and near the shore. The springs are found in three or four places of a small morass, where they form pools, the sides and bottoms of which are thickly lined with petroleum in a viscid state, and which rises to the surface in flakes when the water is agitated. The petroleum is collected once a year, and the usual quantity obtained is about 100 barrels.

The vegetable productions of this fertile spot are abundant. The currants of Zante are well known, and eight millions of pounds have sometimes been produced in one year. About 30,000 casks of oil are also annually made, while wine, oranges, lemons, figs, and other fruit common to the climate, form part of its exports.

The capital, and only town on the island, is *Zante*, which is situated at the top of a bay on the eastern coast. In consequence of the long connexion between this island and Italy, the style of building is chiefly Italian, and the interior of the city displays much neatness, and is in some places elegant. The principal street, which runs parallel to the bay, is lined with piazzas, and contains many shops. Most of the houses are of stone, and some of them are four and five stories high. The population has been stated at 18,000.

SANTA-MAURA is situated nearly as far north of Cephalonia as Zante is south of that island. This was the *Leucadia* of antiquity, and resembles the isle of Man

in shape and appearance, but is rather less in extent. The mountains rise in the middle, to the height of nearly 3000 feet above the level of the sea, and are of calcareous formation. Its products, in those parts that are not covered with mountains, are similar to those of the other islands, but nearly the whole of both cattle and grain are imported from the adjacent continent.

The chief town, which has also the name of the island, is situated on a low peninsular neck of land at the northern extremity, and contains a population of about 5000 individuals. Most of the houses are constructed of wood, as those of stone are frequently damaged by the earthquakes to which it is subject. The water in the narrow channel between this part of the island and the continent, and which is here only a few hundred yards in width, is so shallow that none but small vessels can arrive at the town. The castle is situated in a peninsular situation, on the shore, and is a place of considerable strength.

CERIGO is distant from the other island, and is only separated from the southern coast of the Morea by a narrow channel. It is about 18 miles long and 10 broad, and the number of its inhabitants does not exceed 10,000. It was celebrated as the ancient *Cythera*, and the birth-place of *Helen*, but its present appearance is mountainous and sterile, and though badly cultivated, its products are those common to the climate. The sides of the hills feed a few sheep and goats. The principal natural curiosity of this island is a vast cavern, which seems not to have been fully explored. It exhibits an arborescent appearance, and the interior is compared by Mr. *Galt* to a subterranean forest of petrified trees. The chief town is *Cerigo*, situated on the declivity of a hill near the southern coast, below which is the harbour of *Porto Delphino*. The trade is but small, and the population about 1200.

The little rocky island of ITHACA, so well known as the ancient kingdom of Ulysses, is situated near the north-eastern shore of Cephalonia. Its extreme length is about 17 miles, but its breadth does not exceed four; while at the northern extremity, and in the middle where a deep bay penetrates, it is less than half a mile. It is little more than a single narrow ridge of limestone rock, almost every where rising into rugged asperities, and fully warrants the expression of Cicero, that Ulysses loved his country, "*non quia larga, sed quia SUA.*" The scenery is often extremely picturesque and beautiful. The chief produce is currants, of which about 250 tons are annually exported, besides small quantities of wine and oil; but almost the whole of the grain required for the use of the inhabitants is imported. The Ithacans are distinguished for their maritime enterprize, and a great proportion of the people are engaged in navigation.

VATHI is the capital of modern Ithaca, and stands at the top of an arm of the great bay, completely excluded from all view of the sea, by the surrounding mountains. It consists of a street running more than a mile along the shore; and contains many good houses, most of them built of stone. A few detached buildings are also scattered over the rising ground behind the town, and encompassed with trees, which increases the beauty of the prospect in approaching Vathi. The population is about 2000, and includes the principal proprietors and merchants of the island.

PAXO is a small island, about six miles south of Corfu, and ten from the coast of Albania. It is 15 miles in circumference, and contains about 6000 inhabitants, most of whom are Greeks. Its surface is rugged and stony; and olives, grapes, and almonds are almost the exclusive produce. The quadrupeds are mules and goats. Paxo is the chief town, which is situated at the bottom of a deep bay opposite Parga, and contains about 3000 inhabitants.

Such are the physical circumstances of the Ionian Isles; but their *Political* and *Moral* state require a brief explanation. By the Constitutional Charter, agreed to

and passed unanimously by the Legislative Assembly, on the 2d of May, 1817, the civil government of these islands is composed of a Legislative assembly, of a senate, and of a judicial authority. The executive power is vested in a senate, consisting of five members and a president. The senators are elected by the members, and out of the body of the legislative assembly; and consist of one for each of the larger islands of Corfu, Cephalonia, Zante, and Santa-Maura, and one jointly for the three smaller islands. His excellency the president of the senate is chosen by the protecting sovereign, or his Lord High Commissioner, but must be "a natural-born, noble subject of the Ionian States." The senate thus constituted, decides on all subjects brought before it, by a majority of votes, and in the event of an equality, the president has the casting vote.

The legislative body consists of forty members, including the president, and is composed of eleven integral members, with twenty-nine elected by the different islands. The integral members are the president and the senate, with the four regents of the large islands, and the regent of one of the smaller in rotation. In addition to the twenty-nine members to be elected by the islands, in the proportion already stated, each of the three smaller islands in rotation elects a second member, which completes the forty. Both the senate and the legislative assembly are chosen for a term of five years, but can be dissolved at any earlier period by the protecting sovereign. The power of assembling and proroguing parliament, belongs to the Lord High Commissioner. Ten members and the president are necessary to constitute a legal meeting, and all questions are decided by a majority of votes, the president always having the casting vote. The privileges enjoyed by the members of this legislative assembly, do not differ much from those of the members of our house of commons.

The constitution also provides for the local government of each island. This consists of a regent, with a judicial and municipal administration. The regents and judges are chosen by the senate. A civil, a criminal, and a commercial tribunal, with a court of appeal, are established in each island. Justices of the peace also hold inferior courts for the trial of minor cases. The municipal administrations are appointed by the local authorities of the several islands, and their functions are classed under the heads of "1st. Agriculture, public Instruction, and all objects of national industry. 2d. Commerce and navigation. 3d. Subsistence of the people. 4th. Civil police and charitable establishments. 5th. Religion, morals, and public economy."

The established RELIGION of these islands is the orthodox Greek; but all other forms of the Christian Religion are tolerated, and the Roman Catholic especially protected. The religious establishments are the same as in other countries where the tenets of the Greek church are professed. The native language is the Greek, but from the long and intimate connexion between these islands and Italy it is intermixed with Italian words and phrases, and the public proceedings were wholly conducted in that language. It is, however, one of the fundamental laws of the new constitution, gradually to substitute the Greek in its place. Education has been greatly neglected, but it is an object of much attention with the present government.

The inhabitants of these islands are a mixture of Greeks and Italians, and are represented as quick and ingenious in their conceptions; active in their affairs; but loquacious and verbose in their communications, and much disposed to litigation and intrigue. Females are in a great measure excluded from the general intercourse of society; and, for want of a better system of education, are extremely uninformed and superstitious.

STATISTICAL AND SYNOPTICAL TABLES.

LATITUDES and LONGITUDES of the principal places in EUROPEAN TURKEY and the IONIAN ISLES.

The Latitudes are all *North*, and the Longitudes *East*.

Names of Places.			Latitudes.			Longitudes.			Names of Places.			Latitudes.			Longitudes.		
			°	'	"	°	'	"				°	'	"	°	'	"
Abdera ... ..	...	...	41	20	0	25	0	0	Lepanto ... ..	...	...	38	37	0	22	0	0
Adrianople ... ..	...	...	41	41	0	26	21	30	Leuctra ... ..	...	...	38	30	0	23	10	0
Alessio ... ..	...	...	42	12	0	19	36	0	Longinico ... ..	...	...	37	40	0	21	20	0
Andross ... ..	...	...	37	46	0	25	2	0	Mantineia ... ..	...	...	37	20	0	2	3	0
Argos ... ..	...	...	37	48	0	22	47	0	Marathon ... ..	...	...	38	30	0	24	0	0
Athens ... ..	...	...	38	2	0	23	53	0	Maura, Santa ... ..	...	...	38	55	0	20	50	0
Aulis ... ..	...	...	38	40	0	23	20	0	Megara ... ..	...	...	38	10	0	23	57	0
Belgride ... ..	...	...	44	45	0	20	10	0	Misitra ... ..	...	...	37	6	0	22	30	0
Belvedere ... ..	...	...	37	59	0	21	30	0	Mostar ... ..	...	...	44	0	0	16	45	0
Bucharest ... ..	...	...	44	29	0	25	51	0	Napoli di Romania ... ..	...	...	37	39	0	22	48	0
Cephalonia ... ..	...	...	38	20	0	20	59	0	Narvarino ... ..	...	...	37	0	0	21	25	0
Cerigo ... ..	...	...	36	10	0	22	57	0	Nicopolis ... ..	...	...	13	15	0	24	8	0
CONSTANTINOPLE ... ..	...	...	41	1	27	28	55	15	Nissa ... ..	...	...	43	51	0	21	56	0
Corfu ... ..	...	...	39	40	0	20	17	0	Philippi ... ..	...	...	40	0	0	24	25	0
Corinth ... ..	...	...	37	58	22	23	28	29	Plataea ... ..	...	...	38	14	0	23	35	0
Durazzo ... ..	...	...	41	35	0	19	36	0	Porto Gai ... ..	...	...	39	21	0	20	21	0
Erchia ... ..	...	...	38	5	0	23	57	0	Salonica ... ..	...	...	40	40	0	22	30	45
Gallipoli ... ..	...	...	40	25	33	26	37	30	Sophia ... ..	...	...	42	30	0	23	52	30
Ioannina ... ..	...	...	39	30	0	21	38	0	Stagna ... ..	...	...	41	15	0	22	48	0
Janizza ... ..	...	...	40	55	0	22	45	0	Thermophylie ... ..	...	...	38	50	0	23	0	0
Jassey ... ..	...	...	47	8	30	27	30	15	Vatna ... ..	...	...	42	44	0	28	28	0
Larissa ... ..	...	...	39	48	0	47	0	0	Vathi ... ..	...	...	38	15	0	20	45	0
Leontari ... ..	...	...	37	25	0	22	5	0	Zante ... ..	...	...	37	43	0	20	44	0

MONIES, WEIGHTS, MEASURES, AND EXCHANGES.

MONIES.

Monies of Account.

Accounts are kept in all parts of Turkey in *Piastres*, which are real coins, and are generally called dollars by the English sailors.

	£	s.	d.
3 Aspers are 1 Para, equal to	0	0	0.34375
40 Paras ... 1 Piastre	0	1	1½
500 Piastres ... 1 Bag of silver	28	12	11

Coins.

	Gold.	Intrinsic Value.	
		s.	d.
Sequin Fondueci, 1789	7	7½
Sequin Mahhub, 1789	5	1½
Sequin of Cairo, 1789	4	9½
<i>Silver.</i>			
Piastre of Abdul-hamed, 1773	...	1	8½
Piastre of Selim, 1801	...	1	1½
Piece of 100 Paras of Selim, 1789	...	2	8

USUAL WEIGHTS.

Gold and Silver Weight.

This weight is not only used for gold and silver, but for diamonds and other precious stones.

	Eng. grains.
4 Grains are 1 Killot or Carat, equal to	3.078125
16 Killots..... 1 Dram	49.25
100 Drams... 1 Chequee, or lb.	4985

Commercial Weight.

	Avoir. lbs.
176 Drams are 1 Rottolo,	equal to 1.26
100 Rottoli ... 1 Quintal	126
400 Drams ... 1 Oke	2.8636
41 Okes 1 Quintal	126
6 Okes are a Batman of silk.....	17.1818
45 Okes ... a Quintal of cotton..	128.8538
250 Drams... a Chequee of opium ..	1.7898
800 Drams... a Chequee of goats'-hair ...	5.7273

COMMON MEASURES.

Corn Measure.

Grain is measured by the Fortin, divided into 4 Killos; and 8½ Killos are nearly equal to 8 Winchester bushels.

Liquid Measure.

Wine, oil, and other liquids are either sold by the Almud of 1·375 English gallons, or the Meter of 8 Okes, or 22½ lbs. Avoirdupoise.

Linear Measure.

The Pic or Pike is the common linear measure in Turkey, and is of two kinds. The longest, called *Archim*, is used for measuring woollens and silks, and is $27\frac{2}{10}$ English inches long.—The other is used for cottons and carpets, and is rather shorter. In general the Pike is reckoned equivalent to three quarters of an English yard.

EXCHANGES.

March, 1821.

CONSTANTINOPLE exchanges with, and gives,
 Amsterdam..... 50 Paras for 1 Florin
 Genoa..... 1 Piastre 26 Sold
 Hamburg 1 Piastre 28 Grotes Flemish
 Leghorn150 Paras 1 Pezza
 London 16 Piastres £1 Sterling.

Naples	120 Paras	1 Ducat
Paris	1 Piastre	2 Francs
Ditto	220 Piastres	300 Francs
Venice.....	370 Paras	1 Sequin
Vienna	59 Paras	1 Florin.

EXTRACTS FROM THE ACT OF CONGRESS

IN FAVOUR OF THE IONIAN ISLES,

From the Treaty between Great Britain and the Allied Powers, Signed at Paris, 5th November, 1815.

ARTICLE I.—“The Islands of Corfu, Cephalonia, Zante, Maura, Ithaca, Cerigo, and Paxo, with their dependencies, such as they are described in the Treaty between His Majesty the Emperor of all the Russias and the Ottoman Porte, of the 21st of March 1800, shall form a single, free, and independent State, under the denomination of the United States of the Ionian Islands.

ARTICLE II.—“This State shall be placed under the immediate and exclusive protection of His Majesty the King of the United Kingdom of Great Britain and Ireland, His heirs and successors. The other contracting Powers do consequently renounce every right or particular pretension which they might have formed in respect to them, and formally guarantee all the disposition of the present Treaty.

ARTICLE III.—“The United States of the Ionian Islands shall, with the approbation of the Protecting Power, regulate their internal organization; and, in order to give to all the parts of this organization, the necessary consistency and action, His Britannic Majesty will employ a particular solicitude with regard to the legislation and the general administration of those States, His Majesty will therefore, appoint a Lord High Commissioner to reside there, invested with all the necessary power and authorities for this purpose.”

END OF VOL. I.

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CHAPTER I.

HISTORY OF GEOGRAPHY.

TO DELINEATE, with accuracy, the state and progress of Geography, during the primeval ages of the world, or even for centuries after the formation of society, is a task which the researches of the learned have now left us without the hope of accomplishing. The physical appearance of the Globe prior to the general deluge, the state of antediluvian civilization and attainments, and the succession of events which took place, and progressively enlarged the sphere of geographical knowledge during that period, are equally involved in impenetrable darkness, except so far as it was consistent with the plan of Divine Wisdom to reveal them in the Sacred Scriptures. The same conclusion may also be applied, with very slight modifications, to many ages subsequent to that grand epoch; and even when the torch of historical truth does begin to shine, its light is so feeble, and its rays so attenuated by the intervening gloom, that their united force is insufficient to dispel the surrounding darkness, and afford any distinct views either of the events themselves, or of the consequences resulting from them. Whatever ideas we may form relative to the state of the antediluvian world, they must be, in a great measure, conjectural, and cannot be regarded as links in that grand chain of established *facts* which alone constitute the proper subjects of historic records. Nothing more, however, is necessary, than to examine the nature of this science, to be convinced that its first dawns as an art, must be referred to the primitive ages of the human race.

From what can now be conceived relative to the origin of society, it is more than probable, that the first communities of individuals, or of families, would not assume any other appellation than that of *men*, nor bestow any other denomination, on the district they occupied, than that of *earth*, by whatever terms the ideas these words now excite were originally expressed. These ideas, being at once simple and general, would, doubtless, continue to be employed, till the increased numbers and wants of this infant community rendered further distinctions necessary. While man remains in a savage state, he knows little beyond the forests in which he ranges for daily support, the rivers that supply him with fish, and the mountains that indicate the route to his prey or his cabin. His immediate neighbours only are known, while the rest of his species are to him as if they did not exist.

When the more fortunate or more ferocious of these tribes had conquered the weaker or more pacific, the first notions of superior and subordinate, or the elementary principles of government, were conceived. When flocks and herds had, in some measure, become domesticated, and the produce of the earth, as well as the fish furnished by the rivers and lakes, constituted the principal food of the inhabitants, each distinct community necessarily endeavoured to fix limits to the pretensions of its neighbours, which gave rise to the establishment of

cantons, or countries. Agriculture imparted still more regularity and permanence to these divisions; while politics not only preserved former possessions, but, by exciting the aspiring views of ambitious individuals or tribes, urged them to further conquests, till they acquired sufficient extent and importance to obtain a place in historic records, where they appear like so many luminous points amidst the gloom of ages.

Navigation gave new vigour to the progress of Geography; while war sounded his trumpet in the ear of ambition, and invited to conquest, and commerce unfurled her banners, and beckoned interest from afar. Under the influence of these motives, men traversed mountains and seas; related the wonders they had seen; described the obstacles they had surmounted; and marked the routes they had pursued. Impelled, also, by that curiosity which constantly prompts us to seek an acquaintance with whatever is unknown, Geography soon received a kind of new existence; but not without having the correctness of its delineations marred, and the simplicity of its facts obscured, by the vanity and credulity of the narrators. In order to enhance their own fame, the adventurers astonished their credulous countrymen with accounts of the monsters they had vanquished, and the whirlpools and burning zones by which alone their career of interest or ambition had been arrested. When the navigator discovered a people whose language and manners he did not understand, he frequently bestowed upon both them and their country such denominations as were suggested by his vanity or caprice, without any regard to the propriety of the appellations themselves. These, also, being transferred into several languages, and modified by different idioms, in addition to the various names frequently conferred upon the same countries and people, to flatter the pride of national discovery, or answer the interested views of the individual, have greatly contributed to the increase of that obscurity which all the learned and indefatigable researches of subsequent ages have not been able to remove from the origin and early progress of geographical knowledge.

The slow and almost imperceptible advances of this knowledge during the primitive ages of the world, ought not to excite surprise; for, at those periods, men were destitute of the means both of making and recording the most important observations and discoveries. The knowledge of each individual was, therefore, confined to his own experience, assisted by the small degree of information he could obtain from the tradition of others. The longevity of man, during this primitive era was, however, a circumstance at once favourable to the attainment and transmission of this kind of knowledge; but even after the descendants of Noah were dispersed on the plains of Shinar, about twenty-two centuries before the Christian era, a long time elapsed before much acquaintance was obtained with other regions of the globe. Thinly scattered over the tracts allotted them by Providence, and subsisting on the spontaneous produce of the soil, the limits of property were undefined, while motives sufficiently powerful to urge them to new exertions and inquiries were wanting.

In the darkness of early ages, and even among the most uncivilized people of the present day, man naturally dwells upon his own importance. He readily concludes that the people, of which he forms a unit, and the country they inhabit, are the most important and central on the habitable globe. As all the primitive systems of geography with which the dilapidating hand of time has permitted us to obtain any acquaintance, rested upon this prejudice as a basis, the cause of that strong resemblance they bear to each other is obvious. So general was this leading idea of central situation, that the Hindoos, neighbours of the equator, and the Scandinavians, who inhabited the arctic regions, frequently designated the countries they possessed by two words strikingly similar to each other. The *Midhiama* of the former people, and the *Midgard* of the latter, both signified *to live in the middle*. The Mount Meru

of the Hindoos, and Mount Olympus of the Greeks, were each regarded as the centre of the earth, which was represented as a vast disk, surrounded by a wonderful and inaccessible ocean, and having its most distant regions inhabited by giants and pigmies; while stupendous mountains, or unknown and mysterious columns, supported the azure vault of heaven. *Polybius* long since observed, that it was not in the power of the first travellers and navigators to dissipate those dreams of the imagination. Numerous, and perhaps insurmountable difficulties, inevitably awaited the man who attempted to penetrate to the extremities of the earth, as they were then conceived. It could not but be difficult, in that age, for him to make the requisite observations himself, and still more so to learn any thing, with accuracy, from a people with whose language and manners he was totally unacquainted. Even when he returned, he had fresh impediments to encounter. The minds of his countrymen were already prepared to welcome every thing that was marvellous, and his personal vanity united with his interest in prompting him to support, rather than to dissipate, the general delusion.

The people who boast the greatest antiquity as a nation, and the earliest cultivation of the sciences, are the *Chinese*. Extraordinary accounts of their knowledge of astronomy at a very early period, are given by the Jesuits who first visited them; but we have no evidence that they applied this knowledge to the purposes of geography. This being purely geometrical, and confined to their own empire, which they not only regarded as situated in the centre of the habitable world, but as being of greater extent than all the other regions together, could not have made much progress in those early periods of their history. The ancient *Persians* and *Parthians* also paid some attention to the subject of geography; but this was principally confined to their own dominions, in which they kept registers of the public roads for the use of the state.

In presenting a brief view of the rise and progress of geography, it will be impossible, without doing violence to the subject, to untwist the three-fold cord which nature herself has formed between the kindred sciences; to separate geography, navigation, and commerce, without breaking the legitimate connexion between them, and stripping the facts of all that is most interesting, either in their causes or consequences. In treating, therefore, the present subject, we shall occasionally advert to the progress of both navigation and commerce, as they stand connected with the advancement of that knowledge which it is the object of this article to delineate. What has been observed of the march of science in general is, indeed, particularly applicable to that of geography. When we would attempt to trace its rise and progress, "instantly our eyes are directed to the east; and that quarter of the globe, first visited by the light of the natural day, is the point from which the rays of philosophy diverged to visit the civilized world. The Chaldean seems to have borrowed from India his love of science; from him it passed to the Egyptian; the Phœnician sailed with it down the Nile, and landed it on the shores of Greece. Rome plundered the states of Greece of their arts when she deprived them of their liberties. From Italy the universal domination of the Romans extended civilization and knowledge over the western world; and philosophy found an honourable retreat beneath the consecrated oaks of Britain."

The great antiquity of *Chaldean* astronomy affords strong presumptive evidence that this people also paid some attention to the kindred subject of geography at a very early period; but there remains no satisfactory proof to what precise extent they carried it, before they were surpassed by other nations. *Egypt* has always been regarded as the cradle of science; and, according to the testimony of *Eustathius*, the Egyptians were the first people who made

maps, or representations of parts of the earth's surface, which are ascribed to their king Sesostris, who is supposed to have reigned about seventeen or eighteen centuries before the Christian era. This monarch, in prosecuting schemes of ambition, is said to have traversed a great part of the earth then known, to have described his marches on maps, and to have given copies of them not only to his own subjects, but also to the Scythians. There is, however, great reason to think, that much of this account is fabulous.

The earliest communities were, doubtless, formed on the banks of rivers, and the beauty and fertility of Egypt attracted inhabitants to the margin of the Nile. The inconveniences to which they were exposed, and the disasters they experienced by its inundations, would induce them to study the means of guarding against their recurrence, or of repairing the ravages when they had happened. The increased fertility which they produced, however, would still allure them; and necessity, the fruitful mother of inventions, would soon suggest a remedy. While, therefore, the barbarous tribes in their immediate vicinity, wandered from region to region in search of new pastures, or more fruitful fields, the inhabitants of Egypt had no need to remove from a country, whose fertility was maintained by the annual overflowings of the Nile; and, having once guarded against the disastrous consequences, and enjoyed the benefits, of this phenomenon, it is easy to conceive that they would feel an additional attachment to a spot which was, in a great measure, the work of their own hands. This fertility rendered Egypt independent of other nations. Applying themselves to inland trade, and carrying on commerce by means of their caravans, the Egyptians neglected navigation, and shut their ports against foreigners. Superstition inspired them with an aversion to the sea, which they regarded as an emblem of Typhon, their evil genius, and the enemy of their god, Osiris. To such a degree, indeed, did the Egyptian priests carry this feeling of abhorrence, that they regarded mariners as impious and profane, and avoided all intercourse with them, for ages subsequent to the period when most other nations had begun to frequent the ocean. This cause, which was in itself an insurmountable barrier to the progress of navigation, and, consequently, to the acquisition of geographical knowledge, was still strengthened by others of a different nature. Egypt produced no timber proper for the construction of vessels; its coasts were unhealthy, and deficient in good harbours, and the policy of its sovereigns, and the influence of its priests, prohibited a free intercourse with strangers, who were permitted to land at one place only. Whatever importance, therefore, may be attached to the knowledge of this science, as possessed by the ancient Egyptians, it may safely be affirmed, that though its extent is uncertain, it was confined within very narrow limits.

While the fertility of Egypt thus attached the inhabitants to their own territory, and their superstition excluded them from the sea, there were other tribes who inhabited the northern shores of the Arabian Gulf, and lived in caverns formed by nature in the range of hills that stretched along the sea-coast. These spread, by degrees, into the deserts, where they roamed without a fixed habitation, and found a temporary shelter under the branches of the thorn, or in the hollow of a rock. They were unacquainted with agriculture, and had no property in flocks or herds; by the sea-shore, they lived on fish and marine animals; in the desert, they fed on locusts, and the scanty fruits that grew wild in the woods. From this wretched mode of life they were called *Horites* by the Hebrews, and *Troglodites* by the Greeks; both appellations alluding to their living in holes and caverns. Held in detestation by the other tribes who were occupied in tending cattle, or in the cultivation of the earth, necessity made them bold and inventive. They were the first people who navigated the Red Sea, on a wretched float made of the branches of trees fastened together, on which they ventured a short distance from the shore, in order to procure a subsistence by fishing. Such was the origin of a people,

whose fame extended to the most remote climates, and has been transmitted to distant ages. These tribes, who emigrated at an early period, and took possession of the coasts of Palestine, on the eastern shores of the Mediterranean sea, having been thus taught, by necessity, to venture themselves on the bosom of the deep, were, unquestionably, the first people who discovered the art of rendering navigation subservient to commerce. They are called *Canaanites* in Scripture; which, in the language of the East, signifies *merchants*. The Greeks, afterwards, bestowed on them the appellation of *Phœnicians*; supposed to have been given on account of the number of palms their country produced.

Some of these tribes had settled on the coast of Palestine before the calling of Abram, or more than 2026 years before the Christian era; for (Gen. xii. 6) "Abram passed through the land unto the place of Sichem, unto the plain of Moreh. And the *Canaanite* was then in the land." Here, both the confined and steril nature of their territory, soon convinced them that their only means either of obtaining opulence, or of rising into power, must be derived from foreign sources; and, applying themselves to the prosecution of navigation and commerce, they soon transported the commodities of Egypt and Assyria from one part of the Mediterranean to another. In a few ages their commerce became so extensive, and the knowledge of the earth and its inhabitants they had attained, so great, as to astonish the other nations with whom they had intercourse. Six centuries after the deluge, the wealth and power of the Sidonians (the inhabitants of one of the Phœnician cities,) had become so celebrated, as to be mentioned by the patriarch Jacob, in his last benedictions to the twelve tribes; and they subsequently collected the spices of the East, the perfumes of Arabia, and the gold of Ophir.

The character and genius of nations arise from their physical and political situation. The abundant fertility of Egypt, the want of timber to build ships, and their superstitious horror of the sea, prevented the inhabitants from applying to foreign trade, and limited their industry to improvements in agriculture and inland traffic. In like manner, the barrenness of Phœnicia directed the attention of its inhabitants to maritime pursuits. Possessing only a narrow slip of land on the coast of the Mediterranean, and dependant for subsistence on the scanty produce of an ungrateful soil, the sea became their only resource. Fishing, their ancient mode of subsistence, had taught them the art of navigation. The forests of Lebanon abounded with timber proper for the construction of ships. Nature had formed several commodious harbours on their coasts. As the Egyptians and Assyrians neglected or despised external commerce, the Phœnicians became the carriers of all nations, and derived from their own labours those blessings which Nature seemed to have denied them. Like the Venetians and the Dutch in modern times, necessity taught them inventions. Deprived of natural advantages, they acquired that spirit of ingenious industry which is the parent of opulence, and, destitute of rich possessions of land, they sought, and obtained, the dominion of the sea. The form of their government, also, favoured the progress and success of the Phœnicians in commercial affairs. The same spirit of freedom and independence, by which they were actuated in the wilderness, and on the shores of the Arabian Gulf, continued to distinguish them when they lived under the government of princes in walled and fortified cities. Not less conducive to their commercial prosperity and greatness, was their admirable policy in levelling all distinctions between natives and foreigners, and throwing open their ports to the whole world. Their situation was eminently adapted to extend their commercial intercourse to every part of the earth. Possessing a part of Asia, and placed on the confines of Africa and Europe, if they did not form a centre of interest and union to the inhabitants of the globe, they at least had it in their power to communicate to every nation the benefits of every climate.

Among the early works, which deserve particular attention on account of the geographical information they contain, the most important are those of *Moses* and *Homer*. The Hebrew historian and legislator has embodied many of the geographical ideas of the Hebrews, Phœnicians, Arabs, and other people of western Asia. The Grecian poet has run through the whole circle of knowledge, tradition, and fable, which at that period overspread Greece and Asia Minor.

In tracing the knowledge of geography, however, among the Hebrews, from the writings of Moses and his successors, it should be constantly remembered, that they were charged with the execution of a mission of a nature the most sublime, and that geographical subjects are only incidentally touched upon when they are essentially conducive to their principal design. A few of the most celebrated rivers in that part of the globe, the mountains of *Ararat*, upon which the Ark rested on the subsiding of the waters of the deluge, (and which appears to have been one of the branches of Mount 'Taurus, in Armenia,) with the names and situations of various tribes among the second increase of mankind, constitute the leading features of the geographical statements of the Hebrew Lawgiver. One striking circumstance in these accounts is, that the place where Moses states the dispersion of the human race to have occurred, after the confusion of languages on the plains of *Shinar*, is nearly in the centre of all the countries that were first inhabited. The Indians, to the east; the Scandinavians, to the north; and the Ethiopians, to the south, who were early established in the countries still bearing their names, were almost equally distant from the place where the tower of Babel is supposed to have stood.

Some authors have thought, that the extent of geographical knowledge in the writers, by whom the earlier books of the Sacred Writings were composed, should be confined within narrow limits; namely the Grecian Archipelago on the west, Caucasus on the north, and the mouth of the Arabian Gulf on the south, without assigning any boundary towards the east. Other commentators, however, consider the inspired penmen to have been possessed of geographical knowledge superior to that of any heathen author of early times, whose works have descended to us; and since so many indications of remote regions are *incidentally* given in the Bible, which was never intended to be a methodical work on this subject, they think it fair to conclude, that the learned among the Hebrews possessed a knowledge of geography much beyond what would appear in such a work. Before Joshua assigned the different portions of the Holy Land to the nine tribes at *Shiloh*, about 1450 years before the Christian era, he sent men to walk through the land and describe it; and it is afterwards said, that they described it in seven parts in a book (Joshua xviii. 9). Josephus, also, says, that when Joshua sent men to survey the land, he gave them companions who were well skilled in geometry, and who could not be mistaken with respect to the truth. The obvious inference from these statements is, that a geometrical survey of the Holy Land was actually made; but whether the result was only preserved in writing, or regularly projected into a map, is uncertain. The Editor of "Calmet's Dictionary of the Bible," in his "Geographical Excursions," prefixed to the "Sacred Geography" of Dr. Wells, has entered into a discussion on the "Extent of Scripture Geography;" in which he states many indications of a much wider sphere of geographical knowledge than that above specified. Moses mentions cinnamon as an ingredient in the sacred unction (*Exodus* xxx. 23); and as this is the produce of Ceylon, it seems to warrant the inference that a commercial intercourse, either by means of caravans, or by vessels from the Red Sea, was at that time maintained. The *Ophir*, to which the fleets of Solomon traded for gold, was, doubtless, situated towards the east; and there is reason to believe that the southern coast of India, and perhaps the island of Sumatra, were known to the

Hebrews of that day. That these even were not the limits towards the east, has been inferred from a passage in *Isaiah* (xlix. 12), in which the Prophet, speaking of the calling of the Gentiles, says, "Behold these shall come from afar: and, lo, these from the north and from the west; and these from the land of *Sinim*." Now as the Chinese have, from time immemorial, bestowed upon their country the appellation of *Sin*, which the early European travellers often write *Tsin*, it has been thought, that this is the country referred to by the Hebrew Prophet; and this is certainly strengthened by the context of the passage in which the word *Sinim* is used, as it is there evidently opposed to "the west."

The geographical knowledge of the Hebrew writers evidently extended far into Africa, towards the south. *Isaiah* describes the productions of Ethiopia, and the manners of its inhabitants. The connexion of this region with Egypt was known; and an intercourse was also maintained with Abyssinia. *Ezekiel* appears to have had a competent knowledge of the regions to the north, as far as the provinces which now constitute the middle of the Russian Empire. With respect to the west, their phrasology is less definite. It is said, (*Isaiah* lxvi. 19,) where the Lord is speaking of the wicked Jews, "I will set a sign among them, and I will send those that escape of them unto the nations, to Tarshish, Pul, and Lud, that draw the bow, to Tubal and Javan, to the isles afar off, that have not heard my name, neither have seen my glory; and they shall declare my glory among the Gentiles." Javan (Greece), and Tarshish, supposed to be a place in Andalusia, in Spain, being previously spoken of, the "isles afar off" must be beyond these. The Editor above-mentioned, having inquired more largely into the geographical statements and allusions of Scripture, adds, "It is probable that they exceed what has been suspected; and that, even in this respect, the Bible has the pre-eminence over every book of equal antiquity, and, indeed, over every ancient book which has hitherto been reputed as learned in the science of Geography." This will appear less surprising, when it is recollected that "Moses was learned in all the wisdom of Egypt; and that the residence of the Hebrews was in the vicinity of the Phœnicians, to whom they disposed of the superfluous produce of their soil, and with whom they were sometimes associated in maritime expeditions. The Phœnicians had, at that time, planted colonies in the most remote parts, had rendered themselves masters of the sea, become the common carriers of all the neighbouring nations, and were in possession of nearly all the trade of the known world. "Their commercial opulence and splendour continued to increase till the reign of Nebuchadnezzar. The prophets *Isaiah*, *Jeremiah*, and *Ezekiel*, present a picture of Tyre in those distant ages, and celebrate the mart of nations with that enthusiasm and sublimity which distinguish the language of inspiration."

The first elements of Grecian geography are to be found in the celebrated poems of *Homer*; in which he has exhibited a view of what may, with propriety, be denominated the cosmogony of the age. It would be wholly inconsistent with the design of this article to discuss the various statements and allusions of this immortal Bard, twenty verses of whose *Iliad* subsequently furnished matter for a work divided into thirty books. We shall, therefore, specify only a few of the leading ideas he has presented. The first, relative to the earth, were necessarily those derived from the senses; and hence the ancients represented it as a circular plain, of indefinite extent, encompassed by the ocean, and upon the circumference of which the azure vault of heaven reposed. An oceanic girdle of the world was a natural conjecture to an inhabitant either of the Grecian islands, or of Asia Minor; but the most singular notion on this subject was that of a *River*, as applied to this undefined watery element. *Homer* repeatedly uses the expression, "the great and mighty river, the ocean." This can only be regarded as expressing their conceptions of its length in comparison with its breadth. The

former, according to them, encircled the earth, but of the latter they had no idea. The shield of Achilles was, undoubtedly, designed by the poet to embody the prevailing sentiments of the age, respecting the state and appearance of the earth, as is evident from the following description :

Thus the broad shield complete the artist crown'd
With his last hand, and pour'd the ocean round.
In living silver seem'd the waves to roll,
And beat the buckler's verge, and bound the whole.

ILIAD, Book XVIII.

The limits of the world, according to the cosmography of Homer, were necessarily involved in great obscurity. The columns of the heavens and the earth, of which *Atlas* was the guardian, rested upon an unknown and mysterious foundation. The same idea, also, prevailed among the Indians and other ancient nations. Beyond this impenetrable girdle, which formed the union of earth with heaven, darkness and chaos maintained their ancient empire, and occupied an indefinite extent. The confused mixture of all the elements of heaven, of Tartarus, of the earth and the sea, constituted an abyss dreaded even by the gods themselves. This circular world of the ancients was divided by the Euxine, the Ægean, and the Mediterranean Seas, into two parts, north and south, to which Anaximander afterwards applied the denominations of *Europe* and *Asia*, previously employed in a much more limited sense. The central parts of this terrestrial disk, were occupied by the territories of Greece. The poet regards Mount Olympus, in Thessaly, as equi-distant from the obscure confines of the *orbis terrarum*; but the priests assumed that honour for the Temple of Apollo, at Delphos, then known by the name of *Pytho*. The Grecian peninsula, with the adjacent isles, and Asia Minor, constituted the extent of the *real* knowledge of geography in the days of Homer. The island of *Scheria*, the present *Corfu*, which was then beyond the verge of Greece, or, at the utmost, the coasts of Sicily, may be assumed as the limits of the Homeric geography towards the west; while *Colchis*, placed on the confines of the ocean, and containing the Palace of the Sun, was the boundary in the opposite direction. To the north of Greece, the ancients placed the vast regions of *Thrace*; but they do not, at least in the days of Homer, appear to have possessed any accurate ideas respecting them. The fame of Egypt had evidently reached the ears of the Grecian Poet, for he frequently extols the medical science of its inhabitants, whom he considers as the children of Esculapius. Its proud capital, with its hundred gates, also form a magnificent object when embellished by the Prince of Poets. The Nile, too, was known, as the River of Egypt; but no distinct notions, relative to the features of the country, appear to have existed.

Beyond these limits all was enveloped in fable. Always hazardous to guess at the nature of countries which have not been visited, it was, at that time, still more hazardous to form a conjecture respecting regions, of which experience had not proved even their existence. But the lively imagination of the Greeks was fertile in the creation of wonders. On approaching the strait which separates Italy from Sicily, we immediately become sensible that we are quitting the limits of the real, and entering the vestibule of the fabulous world. The monsters of Scylla and Charybdis, the one-eyed Cyclops, the Lestrygons, the enchanted isles of Circe and Calypso, and the floating island of Æolus, all announce the dominions of fable. One day's sail from Sicily, and at the entrance of their circumambient ocean, they placed the pillars of Hercules, so called from the traditionary exploits of the Grecian demi-god. Such an accumu-

ation of wonders having once gained possession of the human mind, through the works of the popular poets of antiquity, they long maintained an undisputed empire over the imagination. Centuries even elapsed before the light of truth and experience could entirely dissipate them; a circumstance which was productive of much perplexity to subsequent geographers. Two fabulous countries were, by the Greeks, placed on the western confines of the world. Near the entrance into the ocean, and in the vicinity of the dark caverns, in which the dead were supposed to be assembled, they placed the Cimmerians, an unfortunate people, always enveloped in a darkness which the solar beams could never penetrate. Beyond these, in the ocean isles, and consequently beyond the limits of the earth, and the influence of the winds and seasons, the poet paints his *Elysium*, a country where gentle zephyrs always play, and where the elect of Jupiter, snatched from the fate common to mortals, enjoy an eternal felicity. The more northern regions of the poetical world were also peopled by a fabulous race, whom they called Hyperboreans, and represented as sheltered, by the *Riphean* Mountains, from the tyranny of the elements, and exempt from all the moral and physical evils of life; from sickness, and even from the dominion of death. Such pictures, operating upon the mind with the combined force of truth and imagination, were calculated to arouse its curiosity, to excite its inquiry, to lead to conjecture, and give rise to flattering, but delusive hope. The abode first assigned these Hyperboreans was at the foot of the Riphean Alps. Discovery, however, soon proved that this district contained no such people. As curiosity prompted inquiry, and knowledge banished fable, the Hyperboreans, with their Hesperian gardens and protecting mountains, were unpitiously chased from place to place; till, from their last abode in the northern extremity of European Scythia, they were engulfed in the Arctic Ocean. The Cimmerians, and their eternal darkness, also shared the same fate, and vanished before the rays of truth. The east and the south of the Homeric world were equally peopled with fictitious beings, and made the theatre of fabulous but amusing relations. The Amazons occupied the south-east shores of the Euxine; Pigmies possessed the extremities of the southern regions; while the Fortunate Islands, which were ultimately banished from the regions of fancy to the real land of the Canaries, also found a temporary asylum in the Oases of the great Libyan desert, spread over the north-east parts of Africa.

Herodotus has preserved the tradition, that some vessels, manned with Phœnician sailors, by order of *Necho*, king of Egypt, sailed down the Red Sea, or Arabian Gulf, coasted along the south-east shores of Africa, and, after doubling the southern promontory of that continent, and sailing along the western coast, entered the strait of Gibraltar, and returned by the Mediterranean to Egypt, in the third year after their departure. This was about 610 years before the Christian era; and if the fact could be fully substantiated, it would incontrovertibly be the first time that Africa was proved to be peninsular. The father of History relates this statement on the authority of the Egyptian priests, but without appearing to credit all the circumstances connected with it. Such, however, was the limited knowledge, both of geography and astronomy, at that period, that the very circumstance which was the principal cause of his doubt is, in reality, the strongest corroboration of the fact. These navigators represented the sun as having been on their *right hand*, during a part of the voyage, which must have been the case when coasting along the southern part of Africa. The Phœnicians, also, not only drew sketches, and composed descriptions of the places they visited, as guides to future adventurers of their *own* nation, but they planted colonies, both on the coast of the Mediterranean and beyond the pillars of Hercules, for protecting and extending their commerce, and thus became practical improvers of geography. Their commercial jealousy, however, knew no repose. It was ever active in concealing both their adventures and

discoveries, and in adopting every expedient to prevent rival nations from following their steps, or participating in that opulence by which Tyre was "replenished and made glorious in the midst of the seas"—by which she had become "the queen of the ocean." To such an excess, indeed, did this jealousy urge them, that the Carthaginians, one of their colonies, threw every foreign navigator into the sea who landed on their shores. Hence it is to the Greeks that we are indebted for the early traces of geography; even for the accounts of the discoveries of the Phœnicians themselves.

The first attempts that can be traced, among ancient geographers, to reduce their knowledge to any thing like general principles, were in their endeavours to fix the situations of places according to climate, by which they denoted a space parallel to, and equally distant from, the equator. But, being destitute of astronomical observations, as well as of the proper instruments for making them, they had recourse, for this purpose, to natural phenomena. They supposed that variety, both in animals and vegetables, was produced by difference of temperature, which they considered as proportional to the distance from those regions where the vertical rays of the sun exerted their most powerful influence. Experience had taught them that a peculiar part of the human race, with many of the larger animals, were found in particular districts only; hence they fixed the northern boundary of the torrid zone by the appearance of Negroes (Ethiopians), and some of the largest species of the animal kingdom, as the elephant and the rhinoceros.

It was in the Ionian school that geography first assumed the form of a science, by the union of Chaldean astronomy with Egyptian geometry. Thales, one of the seven wise men of Greece, and the founder of the Ionian philosophy, had travelled into Crete and Egypt, where he spent many years in the reciprocal employment of imparting and acquiring knowledge. Among the things in which he is said to have instructed the Egyptians, was the method of measuring the heights of their pyramids, which he accomplished by placing a staff perpendicular to the earth's surface, at the extremity of the shadow of the pyramid. By this means he obtained two right-angled triangles, in which the two shadows, and the objects which produced them, constituted the four terms of a proportion. Hence, by ascertaining the ratio between the length of the staff and its shadow, that between the pyramid and its shadow was easily found; and, consequently, the height of the pyramid itself determined. When this invention became known, the vague method of fixing climates above-mentioned, soon gave way to one which was capable of much greater accuracy, and which rested upon the basis of scientific principle. This was the use of the *Gnomon*, a species of sun-dial, which, by giving the proportion between the height of an object, and the length of the shadow it produced, enabled observers to determine the distances of places from the equator, by ascertaining the longest and shortest days. The first instrument of this kind, that was employed in Greece, was erected by Anaximander, one of the earliest disciples of the Ionian school. Thales is said to have taught, that the stars are fiery bodies, that the moon was opaque, and illumined by the sun, and that the earth was a globular body, placed in the centre of the universe.

By means of the gnomon, Thales, more than six hundred years before the Christian era, discovered the passage of the sun from tropic to tropic, and ascertained the four days in which he appeared to be in the equinoctial and solstitial points of the heavens. He was next led, as a natural consequence, to the division of the year into four seasons; and Diogenes Laertius mentions his having written two treatises on the subject: the one on the tropic, and the other on the equinox. With so much ardour did Thales devote himself to the study of science, that he resigned every other pursuit, and having acquired all that his own country could furnish, he visited both Asia and Africa, in search of additional stores. There is reason

to think, that he learned the division of the year into 365 days from the Egyptian Priests, which he established on his return into the Grecian territories.

That 365 days were not the exact length of the year, was a fact early known to the Egyptian priests; but the additional quarter of a day was not employed till about twenty-five years before the Christian era. Pliny expressly says, that the addition of five days and a quarter to the 360 days, was made by observing when the shadow returned to its marks; which is a manifest proof that the gnomon, or some such instrument, was used for that purpose. Herodotus, also, observes, that the Greeks learned the pole, the gnomon, and the twelve divisions of the day, from the Babylonians; but other ancient authors, implicitly regard these as the fruits of the Ionian school. The first time that a division of the day is denoted by the word hour, appears to be in the book of Daniel, iii. 6, which was written during the reign of Nebuchadnezzar, and about the time of Thales. This is also supposed to have originated with the Babylonians, and to have been communicated by them to other nations.

Anaximander, who flourished about 550 years before the Christian era, not only had the honour of erecting the first sun-dial that was seen in Greece, but also of constructing the first map of the world that was known to that people. This map is mentioned by Strabo, and is supposed to be the one referred to by Hipparchus, under the title of the "ancient map," and which, in some particulars, he preferred to that constructed by Eratosthenes, nearly three hundred years afterwards. About this period, the Homeric disk began to lose its fame in the opinion of philosophers, and more rational notions, mixed with others that were extremely absurd, assumed its place. Thales, as above-mentioned, imagined the earth to be globular, and his pupil Anaximander, according to the intimations of some ancient authors, is supposed to have attempted an estimate of its circumference, which he stated at 400,000 stadia. This is the measure which Aristotle refers to at the end of his second book *De Cælo*. However vague the result may be, the attempt was bold, and the state of knowledge at the time, with the obstacles to be surmounted, may conciliate the asperity of criticism.

The map, constructed by *Aristagoras*, Tyrant of Myletus, about 480 years before Christ, merits particular attention, as a specimen of ancient geography, and as affording a good idea of the nature of maps in those early times. Herodotus, by whom it is particularly described, says, that Aristagoras showed it to Cleomenes, king of Sparta, in order to induce him to attack the king of Persia, in his palace at Susa, for the purpose of compelling him to restore the Ionians to their ancient freedom. It was traced upon brass or copper, and contained, at least, the eastern part of the Mediterranean Sea, with the countries along its shores, and more particularly those situated between Sparta and the Persian capital. Its principal features were, a direct line extending from Sardis to Susa, called the royal highway; and the rivers Halys, Euphrates, and Tigris, which it was necessary to cross in marching from the one place to the other. On this road, all the places of encampment between the Spartan and the Persian capitals were marked; and the intermediate distance was estimated at 13,500 Greek stadia.

Such was the state of geographical knowledge when *Herodotus*, of Halicarnassus, the father of history, found his own experience at variance with the commonly received opinions; and when, in consequence, he began to doubt respecting what he had not either seen, or received strong testimony as to its accuracy. He penetrated among the Peonians, who appear, at that time, to have inhabited Servia. He visited the Greek colonies on the Euxine, and even measured the extent of that sea from the Bosphorus to the River Phasis; and he appears to have traversed the country situated between the Borysthenes and the Hyphanis, which now constitutes the southern part of the Russian Empire. Towards the east, his travels extended to

Babylon and Susa. Southwards they reached to the extremity of Egypt; and the minuteness with which he has described the most memorable objects of that country shows that his abode had been more than transitory. He visited the Greek colony at Cyrene; and his description of the celebrated defile of Thermopylæ evinces his residence in European Greece. He terminated his career in Magna Græcia, where it has been thought his History was composed. Herodotus also visited Tyre, and endeavoured to obtain information relative to the countries colonised or resorted to by the Phœnicians; but the extreme imperfection of his descriptions of the west of Europe and Africa, is a striking proof of the care with which the Phœnicians guarded every avenue to that knowledge upon which their commercial prosperity so much depended.

Astronomy and Mathematics were not sufficiently advanced, as practical sciences, in the age of Herodotus, to enable him to reduce his numerous discoveries into a system. He admitted the three great divisions of the world; but considered Europe, which was separated from Asia by the rivers Phasis and Araxes, and the Caspian Sea, to be more extensive than both Asia and Africa (Lybia,) together. He states Arabia as being the most southern part of the habitable world; and Africa as not reaching to the equator. Some districts of Europe are minutely described; but these are separated from each other by large intervening spaces, involved in the greatest obscurity. He was acquainted with the Phœnician commerce in tin and amber; but did not consider himself in possession of sufficient documents to fix the situation of the countries from which they were obtained. Rome was unknown to Herodotus, and Italy itself was denominated Magna Græcia. It was of the eastern regions of Europe that his knowledge was the most perfect. His measures which relate to the Caspian Sea are singularly correct. He states its length to be such as would occupy a vessel sailing for fifteen days, and its breadth eight days. On this subject the celebrated M. Gosselin, in his *Observations on the Ancient Measures of the Greeks*, has observed, "that estimating the daily rate of a vessel at 700 stadia, the fifteen days' sail would be 10,500; which, at the rate of 1,111½ to a degree, would be equal to 189 marine leagues. This measure is precisely that of the western coasts of the Caspian, from the mouth of the Jaik to that of the Kur, the ancient Cyrus, which was then the principal commercial depôt on the shores of that sea. From near the Kur, the coast is directed towards the east as far as Esterabad, which marks the greatest breadth of the Caspian, and is about 100 leagues, or 5,600 stadia; which, divided by 700, gives exactly the eight days' sail stated by Herodotus."

It should be remarked, however, that there is one circumstance which meets the reader at the very threshold of this geographic edifice, erected by the father of history, which, on a superficial view, may seem to impair the credit due to his statements. It is his estimation of the length of Europe in comparison with that of Asia and Africa, as above stated. This apparent error, however, will vanish by an attention to the manner in which the division into continents was originally formed.

The distinction between Europe and Asia, according to *Eratosthenes*, at first applied only to the opposite shores of Greece and Caria. Homer, also, mentions a small district on this latter coast, to which the name of Asia properly belonged, and from which it has been gradually diffused over so large a portion of the habitable globe. Commencing at these two comparative points, Europe and Asia were successively enlarged by fresh discoveries, each new region which time disclosed being added to that continent to which the traveller belonged. It was by this means, that the continental claimants, for the honour of discovery, met on the banks of the ancient Phasis, which, flowing to the west, mingled its waters with those of the Euxine. This river was therefore considered as the common limit of the two continents,

"and the idea was thus formed of a boundary line running from east to west. At the same time, the expedition of Darius against the Scythians, being undertaken from the European side, the whole of Sythia was added to Europe. From these causes it happened, that in proportion as Asia was extended in the south, Europe, in the north, was co-extended with it. Africa, in like manner, appears to have been gradually expanded from the coast immediately opposite to Greece, and bore always, with the earliest writers, the name of Lybia. The Nile, for a long period, formed the boundary between this continent and that of Asia."

Much of the knowledge possessed by Herodotus, relative to the distant people and regions of Asia, was undoubtedly due to the genius of commerce, which, from the banks of the Borysthenes, had opened a route towards central Asia, at that time regarded as the eastern part of Europe. From the merchants who traversed these regions, it is most likely he obtained his correct information respecting the Caspian Sea. He did not however confine himself to this source, but, in addition to the more satisfactory knowledge his own travels afforded, he embraced the opportunity of collecting whatever the progress of ambition, and the march of war, had brought within his reach. Hence, the expeditions of Darius to India and against the Scythians, with that of Cambyses against the Ethiopians, afforded him many valuable documents in the composition of his great work. The fabulous beings which Herodotus has placed in those remote eastern regions, however, present a striking proof of the difficulties with which the strongest mind has to contend, in struggling against the prejudices of its age. The one-eyed Arimaspians, the Gryphons, guardians of the gold-mines, near the sources of the River Indus, and the Ants piling up heaps of that metal on the sandy plains of Central Asia, all strongly indicate the termination of real knowledge in that direction. The same account is repeated, with additional circumstances, by subsequent travellers; and respecting which Malte Brun observes, in his *History of Geography*, page 59; "that by examining all the remaining testimonies on the subject, it appears that there is a species of Hyena or Jackal, common on the elevated plains of Tartary, which gave rise to this apparently absurd relation. This animal, the Indian name of which bore some resemblance to the word by which the Greeks designated an Ant, is said to form heaps of sand, under which it makes its den; and the sands of these plains generally contain particles of gold. In a similar manner the tradition of the Gryphons, which some writers have transformed into a monstrous animal, inhabiting the north of India, is to be explained; for Herodotus simply denoted by it the guardians of the gold-mines, near the Hyperboreans in Scythia." A variety of other fabulous statements may also be traced to the fertile imagination of the Greeks, which was ever ready to invest the distant and obscure regions of the globe with the wonders of its own creation.

The father of history conceived Africa to terminate on the north of the equator, and its southern coasts not to stretch beyond those of Arabia. But of this third division of the globe, Egypt is the only part which he fully describes. "Its cities and monuments, the productions of its soil, the manners of its inhabitants, and the institutions under which they lived, are all delineated with the accuracy of ocular testimony." He had visited the Cataracts; and the measures he has assigned to the coasts of Egypt, are correct when estimated in Egyptian stadia of $1,111\frac{1}{3}$, to a degree. They serve also to show, that the Delta has not greatly increased during a lapse of 3000 years. The knowledge of Herodotus relative to the remainder of the African continent, was derived from such documents as he could obtain from other sources, and is principally confined to three lines of direction. The first was along the banks of the Nile; the second was from the temple of Jupiter Ammon, situated on an Oasis, west of Thebes, the capital of upper Egypt, and terminated in the great desert; and the third was along the coasts of the Mediterranean. He has distinctly traced the gradations by which the

fertile regions bordering on this Sea first declined in their population, and then passed into those wide-spreading deserts, for the dominion of which, the serpent and the savage, the tyrant and the tiger, maintain a ceaseless contention. Much of his extensive knowledge was doubtless derived from commercial adventure; and he had heard of the expedition of some Nasamonian youths, who set out from the vicinity of Cyrene, with a view of making discoveries in the interior of the African continent. The account which he gives of this expedition, is, that these youths, after passing through an inhabited country, arrived at deserts, occupied by wild beasts, and subsequently travelling for a long time in a sandy region, they reached a plain adorned with trees, were taken prisoners by the natives, and carried to a city inhabited by negroes, which was situated on the banks of a large river, flowing from west to east. Herodotus supposed this river to be the distant part of the Nile; but Major Rennell conceives it to have been the modern Niger.

About this period, the republic of Carthage, originally a Phœnician colony, approached the summit of its renown. Participating in the commercial spirit of the parent state, the Carthaginians adopted every method which they conceived would extend, and secure, their commercial advantages. To such a pitch was this infuriated zeal carried, that they are said not only to have thrown every foreign navigator into the sea, who landed on their shores, but to have captured, if possible, all the vessels they found beyond certain limits to the westward, and barbarously murdered their crews. Whatever knowledge, therefore, they obtained relative to distant countries, they guarded it with the greatest care, as one of the chief causes of their commercial prosperity. One solitary fragment, both curious and important, however, escaped the stifling grasp of this national jealousy, and has descended to us. It is a brief narrative of the expedition of *Hanno*, a Carthaginian navigator, who conducted a fleet with a numerous host of his countrymen, for the purpose of colonizing the coast of Africa, beyond the pillars of Hercules. He appears to have founded five towns successively, at a small distance from each other, and then after three days' sail towards the south, he established his final colony on the island of Cerne. The remainder of the voyage seems to have been employed in exploring the western coasts of Africa. Some writers, however, think that the account which has been left of Hanno's expedition, embraces two distinct voyages: the one, dedicated to the purpose of founding colonies, and the other, to that of exploring the western shores of the African continent. The terms in which the account is narrated are so vague, and the circumstances so numerous and indefinite, that the most enlightened investigators of ancient geography are not agreed respecting the extent of the voyage. Bochart, Campomaues, and Bougainville, whose conclusions are drawn from the consideration of the physical circumstances related in the statement, extend it to the coasts of Guinea; while M. Gosselin, the first of modern French writers on this subject, after an attentive consideration of the itinerary measures of the ancients, limits the whole expedition to Cape Non, on the southern coast of the empire of Morocco.

In the same age, *Hamilcon*, another enterprising Carthaginian navigator, sailed northward from the Straits of Gibraltar, and arrived at Great Britain, after a voyage of four months. It was from the south-western extremity of this island, that they obtained the tin which constituted so valuable an article in the invoices of ancient commerce. There seems, indeed, little reason to doubt that the enterprising spirit of the Carthaginian merchants had, about this time, carried them to the distance of at least 400 marine leagues north of the Straits of Gibraltar.

A few fragments and quotations from the itineraries of *Scylax* and *Eudoxus*, of Cnidus, have reached modern times; but they are insufficient to afford a distinct idea of the disco-

veries they embrace. Prior to the time of Eudoxus, *Hippocrates*, of the isle of Cos, one of the most eminent physicians of his age, wrote a treatise which is considered as the most ancient work on physical geography. He travelled into various regions to study the nature of climates, the effects of dryness and moisture, and of winds and water, upon the prevailing diseases of the times, and thus to establish a natural connexion between the phenomena of nature and the healing art.

The Greeks of this period abandoned themselves, in a great measure, to the reveries of speculation. Whatever may have been their progress in the ornamental arts, or the exact sciences, they paid but little attention to the improvement of physical science, or the application of their theoretical attainments to the practical purposes of life. Hence geography still remained in the state to which it was carried by the Ionic school. Their intestine commotions served only to illustrate the topography of their own territories, till the expedition of Xenophon gave a wider range to the effects of war in promoting the geographical knowledge of a considerable portion of Asia. This expedition has received an admirable illustration from the pen of the late Major Rennell, to whose work our limits permit us only to refer.

The philosophers of Greece, in general, abandoned themselves to abstract speculations. The paths to a positive knowledge of the diversified regions of the globe which had been so ably marked out for them by Herodotus and Hippocrates, were nearly deserted till the time of *Aristotle*, who not only bestowed much attention on the subject himself, but diffused a taste for the study of that science among his disciples. He was acquainted with the spherical form of the earth; for, in his book *De Cœlo*, he says, "Astronomers having remarked that stars, which are visible in Greece, cannot be seen in Cyprus and Egypt, have inferred the curvature of the earth, and have calculated its circumference at 400,000 stadia." This estimate, taken in Egyptian stadia, is a remarkable approximation to the truth, when the want of proper instruments, and the imperfect knowledge of the times, are taken into the account. Aristotle, also, seems to have imagined, as Columbus did in a subsequent age, that the western shores of Spain were not very distant from the eastern coasts of India. The world of this philosopher, however, appears to have been bounded on the east by the river Indus, and on the west by the Tartessus, the present Guadalquivir; the Riphean Mountains constituted the northern limit; while a large river, which he denominates Chremetes, supposed to have originated in the same mountains as the Nile, and to have fallen into the Atlantic Ocean, formed the southern boundary. This, it is imagined, was the river Chretes of Hanno, and the Senegal of modern times, the sources of which were at that period unknown. In his book *De Mundo*, however, Aristotle mentions two large islands to the north of Celtia, which he calls *Albion* and *Ierne*; but adds that they are less than those of *Taprobana*, beyond India, and *Phebol*, in the Arabian sea. The former of these is the present Ceylon, and the latter is supposed to be Madagascar, which the Arabs called *Phanbalou*. These are strong indications of the accuracy and extent of Aristotle's geographical knowledge, if the passage in which they are found can be considered as the genuine production of that celebrated philosopher.

The disciples of Aristotle imbibed the spirit of their master with respect to the acquisition of positive knowledge. *Theophrastus*, a native of Eresium, and one of his favourite pupils, greatly advanced physical geography; while *Dicæarchus*, a Messenian, wrote a valuable description of Greece, and bestowed much attention upon ascertaining the heights of mountains, and constructing correct maps, which were afterwards referred to by Pliny. But it was this philosopher's royal pupil who gave the grand impulse to the study of geography in the Grecian world.

However inimical war may be to the progress of most sciences, it has ever been one of

the principal means by which that of geography has been extended; and the expedition of the Macedonian conqueror may be regarded as the commencement of an era, which effected a complete revolution in human knowledge. The interest, the safety, and the glory of conquerors, are all intimately connected with a knowledge of the countries they traverse or subdue; and, upon this principle, *Alexander* was accompanied by engineers who carefully surveyed all the routes along which he marched, as well as recorded whatever was worthy of notice that they either saw themselves, or could learn from others. *Diognetus* and *Bæton* were the two principal surveyors who undertook this important task; and Alexander was himself careful to examine the accuracy of their labours, as well as to have descriptions of what did not fall immediately under their own observation, from the most skilful natives of each country. *Bæton* appears to have published his work, which is now lost, under the title of the Encampments of Alexander; and which, with the account of Nearchus, whom Alexander had commanded to sail from the mouth of the Indus to the bottom of the Persian Gulf, formed the basis of a new geography of Asia. If, in addition to the knowledge thus obtained, we consider the advantages resulting from the books being transferred to Alexandria, which were buried in the archives of Babylon and Tyre, and by which means the astronomical and nautical observations of the Phœnicians and Chaldeans were rendered more accessible to the learned of Greece, we shall perceive the grounds upon which Quintus Curtius asserted, that Alexander wished to conquer the world, in order to obtain a knowledge of mankind, though it may be suspected, that the gratification of his own ambition was a motive at least equally powerful.

The successors of Alexander also continued to extend the knowledge of geography in the eastern world. *Seleucus Nicanor* penetrated as far as the banks of the Ganges, and procured a fresh stock of materials for the delineation of those eastern regions: while his admiral, *Patrocles*, who had navigated both the Indian Ocean and the Caspian Sea, published his own observations, as well as many of those which had been previously made by the surveyors and officers attached to the armies and fleets of Alexander.

About the period in which Alexander was extending his conquests in the East, and endeavouring to consolidate the various nations he had over-run into one widely-extended empire, *Pytheas*, of Marseilles, was exploring the western regions of Europe, and opening new sources of wealth and commerce to his countrymen, less ostentatious, indeed, than those of conquest, but more secure and lasting. Having passed the straits of Gibraltar, and directed his course towards the north, he sailed through the English Channel, visited the northern ocean, and discovered a large island, which he called *Thule*, where he represents the length of the longest day as being nearly twenty-four hours, and the atmosphere as consisting of the three elements of air, earth, and water. Allowing for the strength of expression common to the age, as well as to an ardent mind, captivated by the first sight of such a scene, the representation is highly descriptive of those frozen vapours which frequently condense near the surface of Iceland, and almost exclude it from observation. Malte Brun, and some other authors, however, assert, that the *Thule* of Pytheas was not an island, but the present Jutland, and the *Thiuland* of ancient Scandinavia; while others, with equal zeal, and greater success, contend, that the *Shetland islands* was the *Thule* of Pytheas. A recent writer indulges in the following judicious observations upon this subject:

“Of all who, in the cause of science, and for the instruction of mankind, have braved the ocean, peril, and death, there is none, perhaps, whose fate has been harder than that of this great navigator. All his own narratives have perished; and the few extracts which remain have been made by his bitterest enemies, for the sole purpose of impeaching his veracity, and blackening his character. But nature, which remains immovable, has vindicated

cated the fame of her explorer. The very statements which, to Strabo, appeared to furnish the most evident proofs of his falsehood, are those most calculated to satisfy modern inquirers of the actual performance of this celebrated voyage. In submitting these statements to a brief examination, we shall proceed on the common supposition that Shetland is the Thule of Pytheas, after which an inquiry will be made, if there be any other part of Europe to which that boundary of ancient knowledge can be referred." This writer concludes his discussion, relative to the validity of this voyage, in the following terms: "Upon a general view, then, of the reports respecting the celebrated voyage, passing, as they have done, through the medium of those who disbelieved them, the presumption appears strong in favour of its authenticity. In describing the regions which he professed to have visited, Pytheas displayed a knowledge which the rest of his countrymen, though intelligent and commercial, neither possessed nor credited: so that it does not appear how he could have obtained this information, unless by actually visiting the northern parts of Britain. Nor, in the erroneous part of his statements, does there appear to be more than those false and hasty impressions which are received almost inevitably on visiting, for the first time, a region and people before entirely unknown." *Introduction to the Edinburgh Gazetteer.*

The city, which Alexander founded on the south-eastern shores of the Mediterranean, and honoured with his own name, soon became the grand emporium of the world; and nearly three centuries before the Christian era, science again visited Egypt, and put forth her vigorous branches in the Alexandrian school. The immense library that had been collected—the facility of personal inquiry, which the resort of merchants offered—the patronage afforded by the Ptolemies, and the new documents and descriptions they caused to be obtained relative to distant regions—all facilitated the improvement of geography. But it required a mind possessing more than the usual strength and attainments of the age, to digest this heterogeneous mass of materials into a regular system. In this respect *Eratosthenes*, who was born at Cyrene, about 270 years before Christ, and who held the situation of librarian under Ptolemy Evergetes, deserves to be classed among the boldest and most successful geographers of antiquity. He endeavoured to erect the superstructure of his system on the basis of science, and was the first who introduced a regular parallel of latitude into his map. This line, upon which the principal graduation of Eratosthenes was established, was drawn through those places where the longest day was observed to be fourteen hours and a half, and which is now known to be about latitude $36\frac{1}{2}$ degrees. It commenced therefore near the straits of Gibraltar, passed close to the southern extremity of Peloponnesus through the island of Rhodes, entered Asia, and terminated at a point named Thinae, on the eastern coast of that continent. As this parallel divided in the centre the Mediterranean Sea, on the shores of which most of the principal nations of antiquity were established, the length of the world was frequently estimated according to its direction. The whole extent of the parallel was estimated at 70,000 stadia, or rather less than one-third of what was conceived to be the entire circumference of the earth: the remainder being occupied by the Atlantic Ocean, which was supposed to wash the western coasts of Europe and Africa, on the one side, and the eastern shores of Asia on the other.

The obvious improvement resulting from the introduction of this parallel, not only induced Eratosthenes to draw others in his map through particular places, as *Alexandria*, *Syene*, and *Meroe*, but also to attempt to draw a meridian at right angles to these, passing through Rhodes and Alexandria, and extending to Syene and Meroe. Modern observations, however, have proved that these places were not situated under the same meridian, for Syene is more than a degree to the east of Alexandria. He also placed Meroe, a city upon the

Nile, Rhodes, Byzantium, and the Borysthenes, upon the same meridian, some of which are to the east, and others to the west of that line. The ideas of Eratosthenes expanded with the improvements he made, and he undertook the still more arduous task of determining the circumference of the earth by actually measuring a segment of the supposed meridian, comprised between Alexandria and Syene. For this purpose, he observed the difference of the angles which the rays of the sun made with the plane of the horizon at these two places, and then ascertained the distance between them: thus uniting, in his attempt to solve this interesting problem, the two grand principles of scientific geography—astronomical observation and geometrical measurement. As Syene was situated near the tropic of Cancer, the solar rays were vertical at that place during the summer solstice; and in order that the time of this might be ascertained with the greater accuracy, he caused a perpendicular well to be dug, which was completely illuminated at the bottom when the sun was on the meridian. But the deviation of the solar rays from the perpendicular at Alexandria, was equal to a *fiftieth* part of the circle. The distance between these two places he estimated at 5000 stadia; which, multiplied by 50, gave 250,000 stadia for the whole circumference of the earth. If Major Rennell's standard of ten stadia to the Roman mile be adopted, the result gives nearly $69\frac{1}{2}$ English miles to a degree, which would be a very singular and striking approximation to the truth. When, however, the imperfection of the means by which it was obtained is considered, it can only be regarded as resulting from a fortuitous concurrence of circumstances.

This number, 250,000 stadia, is given as the result of Eratosthenes's computation by Cleomedes, who appears to have extracted it from the original work; yet various authors, of unquestionable authority, have uniformly given 252,000 stadia as the result. And, in order to reconcile these numbers, Dr. Murdoch, in his inquiry concerning linear measures, prefixed to Busching's Geography, supposes that the arc observed by Eratosthenes did not correspond exactly to $\frac{1}{50}$ th part of the circumference, but to $\frac{1}{48}$ th and a small fraction, which Cleomedes had neglected in transcribing; or, in modern language, instead of being $7^{\circ} 12'$ as stated, it ought to have been $7^{\circ} 8\frac{1}{2}'$, which gives 252,000 stadia as the result.

In estimating the length of the habitable world, on the parallel he had first introduced, many errors in the distances of places were necessarily committed by Eratosthenes. But a very remarkable circumstance relative to these erroneous statements is, that they are all in excess, and increase progressively in proceeding from west to east, from Cape St. Vincent to the eastern extremity of the parallel at Thinae. Even in the best known countries through which the parallel passes, as Greece, Egypt, and Asia Minor, the regular accumulation of increase is not interrupted. The error at the straits of Gibraltar is about two degrees; Rhodes, about nine; Issus, nearly ten; the Gates of the Caspian, fourteen; and the sources of the Indus, nineteen degrees.

To account for these errors, and numerous others found in the works of ancient geographers, two methods have generally been adopted. The one is that of assuming all the itinerary measures to commence at Cape St. Vincent, the sacred Cape of the ancients, and to proceed eastward from thence, and, as the distances of the ancients are always over-rated, the excess necessarily becomes augmented as the distance from the origin of the measure is extended. The other, was the use of different stadia by those who first estimated the distances, and by the authors by whom their measures were adopted. When the Greeks, in the time of Alexander, first became acquainted with the astronomical and other scientific works of the Asiatics, they confounded together the different local measures which were then used, and translated each by the word *stadium*; a term with which both the authors and their readers were familiar. This, perhaps, cannot be more clearly shown than by the various measures

which the ancients assigned to the circumference of the earth. Thus, besides those already given, as the results of Anaximander and Eratosthenes ; others, among whom are Archimedes and Cleomedes, stated the circumference of the earth to be 300,000 stadia ; Hipparchus made the result of the same problem 277,000 stadia ; Posidonius, 240,000 ; and Ptolemy, 180,000 stadia. M. *Gosselin* thinks, that to account for these differences, as well as many others that occur in ancient authors, it is only necessary to allow them to have been estimated in stadia of different lengths, and, consequently, of a different number to a degree. The measure of Anaximander he therefore conceives to have been in stadia of $1,111\frac{1}{3}$ to a degree ; that of Archimedes, in those of 833 to a degree ; the result of Eratosthenes, in stadia of 700 to a degree ; that of Posidonius, in 666 ; and that of Ptolemy, in stadia of 500 to a degree. These he considers as local measures, which the Greeks, for want of sufficient discrimination, confounded together, and by that means introduced a confusion into their geography, which all the researches of the learned have never been able completely to remove. But, however bold and ingenious may be theory which M. *Gosselin* has adopted, for ascertaining the lengths of the ancient stadia, or however striking the results which he has obtained, it is by no means free from objection ; for the length of the stadium is deduced from the *measures* themselves, and, consequently, must participate in the uncertainty, and, in many instances, in the incorrectness which they involve. A dissertation on the itinerary measures of the ancients would certainly be misplaced in this historical sketch ; but a full examination of the subject, freed from all hypothetical bias, would lead to the conclusion, that the Olympic stadium alone was employed by the Greeks, and that either 8 or $8\frac{1}{4}$ of these stadia answered to the Roman mile of 75 to a degree, which was consequently equivalent to 600, or 625 of these stadia, as one or other of the above proportions is adopted. It ought to be observed, however, in vindication of one of the most indefatigable and successful explorers of Grecian geography, that though his hypothesis is supported by inductive evidence alone, it is possible that, in the extensive empires of India and Babylon, and even in the once-flourishing commercial states of Tyre and Carthage, systems of geography might have existed, the wrecks of which only had reached Eratosthenes, in that immense depository of human labours, the Alexandrian Library.

From the preceding observations it will be readily concluded, that the improvements introduced into geography by Eratosthenes, consisted rather in the manner than in the matter—in the method in which he employed the mass of facts already collected, rather than in any additions he made to the existing stock of knowledge. His map, which formed a rectangle, the length of which was nearly double the breadth, contained little more than the states of Greece, and the dominions of Alexander's successors, digested from what had been already written. The breadth of the habitable world was supposed to be about half its length. The continent of Asia, as well as that of Africa, was believed to terminate several degrees north of the equator ; and the latter was represented as a large island of an oval shape, bathed on all sides by the Atlantic ocean. The knowledge which Eratosthenes possessed of the north of Europe, was chiefly derived from the otherwise neglected information of Pytheas ; but all these continents were much contracted in dimensions, as well as distorted in figure. The scientific processes by which the distances and bearings of places are now fixed with so much accuracy, were at that time unknown ; and the only means by which latitude and longitude were then ascertained were the gnomon, and the calculations of travellers, to which Hippocrates added the nature of the winds and the productions of different regions. It was by these uncertain methods, therefore, that Eratosthenes fixed the positions of places on his map ; or, perhaps, by translating many of them from the charts employed by the more ancient Phœnician navigators. He consequently fixed the southern extremity of India 16° north of

the equator instead of 8 ; and he placed Rhodes, the straits of Gibraltar, Sicily, Cape Sunium, and the gulf of Issus, upon the same parallel, though some of them are situated to the north, and others to the south, of the actual parallel of Rhodes. Another defect in all the ancient Systems of Geography is, that of not placing the coasts of the various countries in their proper positions, with respect to the points of the compass, which the French term *orienting*. This evidently arose from the imperfect methods by which the bearings of the different objects were determined, and the desire to *orient* (we preserve the French word for want of a corresponding English one) all their lines towards the cardinal points. The practice, also, of continuing the geographical lines beyond the boundaries of their correct information, by prolonging them in the direction they had, when that knowledge terminated, contributed to produce this error.

Such was the state of science, when *Hipparchus*, about 140 years before the Christian era, transferred the ideas of latitude and longitude from the heavens to the earth, and showed, that what had been so happily introduced into Astronomy, by Timocharis and Aristillus, about 150 years before, was equally applicable in determining the bearings and positions of places on the surface of the terraqueous globe. Hence the merit of uniting the sciences of Geography and Astronomy, and of fixing the latter upon the immutable basis of science, is justly due to this celebrated author. The geographers of those times were acquainted with the cultivated part of northern Africa, which borders on the Mediterranean Sea, and with the commencement of the sandy desert, by which it is bounded on the south. By allowing their ideas of the intensity of solar influence to increase as they approached the latter, they soon arrived at a zone, where the heat was so intense as to preclude the abode of man, and consequently to form a limit to the habitable world in that direction. A similar process relative to decreasing, instead of increasing heat, led them to the same conclusion with respect to the frigid zone. Hence the habitable world was confined within narrow limits in this direction ; and though it was then generally admitted that the shape of the earth was globular, yet, as they considered the habitable part as only a portion of its upper surface, they conceived that they could not err in representing it as a plain. Thus it was considered, till Hipparchus suggested the idea of representing the meridians and parallels of latitude by curve lines ; but his suggestions were long neglected by other geographers. When he had matured them, however, Maps necessarily assumed a new form in the projection of the *planesphere*, which he introduced in order, as he expressed it, “ to preserve the sameness of the proportions in the diversity of figure.” But this projection had been facilitated by Archimedes, who discovered the celebrated problems for measuring the surface of a sphere and its segments, at least 50 years before it was adopted by Hipparchus.

The investigator of ancient Geography finds ample reason, at almost every step of his progress, to be convinced with what pertinacity the prejudice of system maintains its ground, when it has once received the sanction of authority. The Cimmerians and the Hyperboreans, those phantoms of Homeric creation, were chased from region to region, by the ruthless hand of experience, till they were finally banished from the northern verge of the European Continent. The Amazons, which the fertile imaginations of the early Greeks placed near Colchis, the eastern confines of their geographical knowledge, were, by subsequent historians, removed to the banks of the river Thermodon. Strabo, unwilling to relinquish such an embellishment of theory, transported them to the unknown vallies of Caucasus. A new age denied them an existence in any known region. Ptolemy assigned them new domains on the banks of the Volga ; while the writers of the middle age, pursued them to the obscure regions of Scandinavia, the last asylum of so many geographical and historical fables. They were next

wafted by the gales of fancy to the transatlantic regions, where they found a temporary asylum on the unknown banks of the majestic Marañon. Relentless curiosity, however, under the name of discovery, soon disturbed these Dianian nymphs in the woods and savannas of their new retreat, and compelled them to ascend the Cordilleras of the Andes, where clouds and caverns for ever hide them from human view. Thus experience banishes system, and the finest creations of imagination give place to the beings of reality.

The Geography of Strabo has fortunately escaped the wreck of time, and constitutes the most valuable record of the geographical knowledge of those early ages that has descended to modern times. It is to this source we are indebted not only for all our knowledge of the systems of both Eratosthenes and Hipparchus, but for the means of tracing the progress of geographical discovery, during four centuries after the death of Alexander. This celebrated work presents two distinct parts; the one, a particular description of Greece and Asia Minor, and the other a brief review of the remaining regions of the globe. In the former he is very scrupulous and correct; in the latter he has been considered, in some instances, an unfaithful abbreviator, and in others a partial and superficial judge. We have already recorded, some of the principal improvements he preserved; and as the limits of this Essay necessarily preclude us from following him in detail, we shall only attempt a brief outline of his system, according to the order he has followed, and refer such of our readers as are desirous of more particular information to the work itself.

From the deficiency of their knowledge respecting the true direction of the coasts, combined with their bias in *orienting* them, the ancients were ill qualified to give the proper figure and position of the various countries of their habitable world. Strabo commences his account of Europe with a description of its south-western peninsula, to which he gives the figure of a rectangle, or, as he expresses it, "a hide spread out." The Pyrenees are represented as running north and south, and forming the eastern boundary of this figure. The sinuosities of the coast are neglected. Gaul succeeds Spain, and is comprised between the Pyrenees on the east, and the Rhine on the west, which are supposed to be parallel to each other. Britain is represented as a triangle, having its longest side or base parallel to the coast of Gaul, and its western extremity opposite the Pyrenees; while the Cassiterides (Scilly islands) were attached to the coast of Spain. The altitude of triangular Britain was supposed to be small, and its vertex was placed near the centre of England, instead of being assigned the position occupied by the northern extremity of Scotland. Considerably to the north of Britain, Strabo describes the large and inhabited island of Ierne, the present Ireland, which he represents as a country almost constantly buried in frost and snow, and beyond which the existence of human beings was impossible. These errors evidently arose from an obstinate rejection of the testimony of Pytheas, whose valuable information he treated as a tissue of falsehood.

Regarding the Britannic Isles as the extremity of the world in that direction, Strabo then returns towards the south, and describes the *Alps*, and the countries situated in the vicinity of that celebrated chain. These mountains, according to his description, commence near Genoa, and terminate on the north of Istria. Other ancient authors, however, extend them to the confines of Macedonia and Thrace. Much of this account coincides with that given by Polybius, and is sufficiently vague to shew that neither Strabo nor his predecessors had any very correct ideas on the subject. From the Alps, Strabo naturally passes to the *Italian* Peninsula, which he places as Polybius had previously done, nearly in an east and west direction; and gravely enters into a discussion, to determine whether its shape is that of a triangle or a square. After the account of Italy, and the adjacent islands, he includes all the

northern part of Europe, from the Rhine to the Tanais, under the denomination of Germany; but his descriptions possess so little order and perspicuity as to prove that his knowledge was very imperfect. His account of Greece, and its adjacent countries and islands, is given with much greater topographical accuracy; but even here error is not wholly excluded. The measures of Eratosthenes assigned to the Grecian Peninsula nearly double its real breadth from east to west; while the Strait of the Bosphorus was placed north of the Hellespont, although the direction of the line upon which these two Straits are actually situated is nearly east and west.

Asia was a part of the world with which the expeditions of the Macedonians, combined with his own researches, had induced Strabo to believe he was well acquainted; but his description is sufficient evidence that the knowledge of that continent was very imperfect during his time. An ocean was conceived to extend along the north of both Europe and Asia, and Strabo has brought this so near the centre of the latter continent, as to make the Caspian Sea one of its gulfs, which consequently diminishes the extent of Asia, from north to south, by about fifteen hundred miles. As all the ancient Itineraries exaggerated the distances of places, this diminution may be considered as a proof that they were destitute of them, with respect to the northern part of Asia. Strabo's idea of a northern ocean must, therefore, have been derived either from the circumambient ocean of more ancient systems, or from some vague report of this real feature of the Globe, which his deficiency of knowledge respecting the intermediate space led him to conceive was much nearer than it really was. The Atlantic Ocean, as already mentioned, was supposed to fill all the intervening space between the western shores of Europe and Africa, and the eastern coasts of Asia; and India was the country supposed to border on this ocean. The coast of Coromandel was thought to run almost due north, till it joined that of the northern sea; and hence the Ganges necessarily fell into the eastern ocean. The continent being thus bounded by a line drawn along the frontiers of India, Tibet, and Independent Tartary, and thence directly north of the Caspian, it was reduced to less than half its real dimensions. All the immense regions of Siberia, as well as the countries beyond the Ganges, were excluded. The pretended chain of Mount Taurus, was considered by the ancients to extend across the whole of Asia, commencing nearly opposite Rhodes, and terminating near Thinae. Consequently it divided this continent into two distinct parts, denominated Asia within, and Asia beyond, the Taurus. Strabo *oriented* the south coast of Asia, nearly east and west, in consequence of which the great promontory of the Deccan has no place in his map. Taprobane, or Ceylon, is also placed near, and parallel to, the south-eastern extremity of India; but its greatest extent is from east to west, instead of north and south, and which he estimated at 8,000 stadia, being at least three times its real breadth.

Few persons who have carefully examined the subject, will be inclined to doubt Major Rennell's assertion, that in the geography of *Africa*, at least, the information afforded by Strabo, is much inferior to that presented by Herodotus. Of all the parts of the world, indeed, Africa is that where, in all ages, the fewest discoveries have been made. The Father of history collected, at Memphis and Cyrene, the documents possessed by the Egyptian Priests and the Greeks who had settled in Africa, with some valuable fragments of the knowledge acquired by the commercial and enterprising Carthaginians. The upper part of the Nile, and perhaps the Niger, were known to him; and these, with Mount Atlas, constituted the limit, beyond which his prudence deterred him from giving any decisive judgment. Subsequently to the epoch at which Herodotus wrote his history, Egypt was transformed into a Greek monarchy, and its conquests directed towards the Arabian Gulf and the Indian Ocean.

Eratosthenes, also, collected at Alexandria, very accurate information relative to the course of the Nile through Nubia, and ascertained that its source was much farther to the west^a than had been supposed by his predecessors.

The Carthaginians had, doubtless, during the period which elapsed between the time of Herodotus and Strabo, maintained an intercourse with the more southern inhabitants of Africa, and perhaps with the people on the banks of the Niger; but when that industrious and jealous people were subdued by the Roman arms, their discoveries were either lost, or involved in obscurity. Hence the interior of this continent was almost unknown in the time of Strabo; and the shores of the Mediterranean, with the vicinity of the Nile, were alone visited by the Greeks. They thought that the form of Africa resembled that of a trapezium, the breadth of which, from north to south, was considerably less than the distance from the southern shores of the Mediterranean to the equator, and, consequently, that it terminated to the north of that line. There even appears to have been some notion, that the coast from the strait of Gibraltar to Pelusium might be considered as the base of a right-angled triangle, of which the Nile, and a line prolonged in that direction, constituted the perpendicular. This line was extended through Ethiopia to the ocean, whence the third side, like the hypotenuse, joined that point to the strait. This point, however, was merely imaginary; for being supposed to lie beyond the limits of the habitable world, it had never been approached. The southern regions of Africa were, therefore, entirely unknown to Strabo and his contemporaries. The heat and sterility of the desert, and the immensity of the seas, opposed insurmountable barriers to the spirit of discovery in those early times. Malte Brun, in his History of Geography, having given a copious analysis of Strabo, concludes by observing, that the reader who has carefully studied the subject, will be convinced of the confined nature of geographical knowledge among the Greeks at the commencement of the Christian era. The vast continent which we inhabit appeared to them to terminate on the north, about the mouth of the Elbe, and to the south, in the regions washed by the Niger; while a line, drawn from Cape St. Vincent to the mouth of the Ganges, marked the greatest extent from west to east. This was the *universe* which the Macedonian hero undertook to conquer, and of which the Romans believed themselves nearly masters. The confined limits of their geographical knowledge therefore shows why they thought their *eternal empire* above any hostile attack. Little did they think what vast countries, and what warlike nations, were yet to be disclosed, or that those very regions which were to them *unknown*, should subsequently pour forth their myriads of undaunted warriors, beneath whose pressure their boasted empire was to sink for ever.

It may, perhaps, appear surprising, that for nearly five centuries from the time of Herodotus to that of Strabo, geography should have made so little progress; yet, on a closer examination, it will be perceived, that much had been done towards delineating the earth upon scientific principles, especially by Eratosthenes and Hipparchus. Its globular form was then generally admitted; and attempts had been made to determine its magnitude—an enterprise equally bold in the conception, and difficult in the execution, when the age in which it was made, and the means of accomplishing it, are considered. The principal mode which the ancients had of ascertaining the distances of places from each other was actual measurement, or rather estimation, according to the distance supposed to be either travelled or sailed in a day; the former being computed at 170, and the latter at 500 stadia. The deficiency of other methods, however, caused them to pay great attention to itinerary measures. They also had recourse to the proportional length of the gnomon to that of its meridian shadow, as a means

of ascertaining the distances of places from the equator, and in Greece and Asia Minor a degree of accuracy was obtained by this method, which could not be expected in our climate with so rude an instrument. Still, however, they were liable to much uncertainty. The penumbra at the extremity of the shadow prevented its length from being precisely determined. The semidiameter of the sun does not appear to have been taken into the account; and parallax and refraction were then unknown. Instances also occur in which much greater errors were committed than can be fairly ascribed to any of these sources. Strabo, who died in the twelfth year of the reign of Tiberius, and who, consequently, completed his elaborate work long before the positions of places were estimated according to latitude and longitude, repeatedly states, that the proportion of the length of the gnomon to its solstitial shadow was found to be the same at Byzantium and at Marseilles; but the most accurate modern observations assign $41^{\circ} 11'$ as the latitude of the former, and $43^{\circ} 17'$ as that of the latter, the difference being $2^{\circ} 6'$, or 146 English miles. This error rested on the authority of both Eratosthenes and Hipparchus, was subsequently adopted by Ptolemy, and remained long uncorrected; though the real proportions were $10:3.095$ in the first instance, and $10:3.554$ in the latter; a difference certainly distinguishable by the naked eye. A still greater error is to be found recorded in the pages of the same geographer respecting the situation of Carthage. He states the proportion of the gnomon to its equinoctial shadow as 11 to 7, which answers to a latitude of $32^{\circ} 20'$; but, according to the most accurate modern observations, it should have been $36^{\circ} 5'$. The error therefore is equal to $225'$ of a degree, or about 260 English miles. Another instance, which combines want of attention with deficiency of means, is recorded with respect to Posidonius of Rhodes, who is said to have observed that the star Canopus, when on the meridian of that place, coincided with the horizon, or was merely visible, and without any perceptible elevation. The altitude of the same star, at Alexandria, he stated at $7^{\circ} 30'$, which is equal to $\frac{1}{4}$ th part of a great circle of the globe, and which, therefore, afforded the means of determining the magnitude of the earth. More recent and correct observations, however, have ascertained that the true meridian altitude of Canopus, at Rhodes, is $1^{\circ} 2'$; to which the refraction of $24'$ being added, gives it an apparent altitude $1^{\circ} 26'$, instead of a coincidence with the horizon. Nor was the altitude of the same star, as observed at Alexandria, correct; since, instead of $7^{\circ} 30'$, its apparent altitude has been found to be only $6^{\circ} 26'$. Hence the error of the observation at Alexandria was $1^{\circ} 4'$, which, added to the error at Rhodes, gives $2^{\circ} 30'$ for the error of the whole observation; and, consequently, by deducting this, the true result will be 5° instead of $7^{\circ} 30'$; or $\frac{1}{12}$ th part of the meridian instead of $\frac{1}{4}$ th. From this observation, the circumference of the earth was subsequently calculated by Ptolemy at 180,000 stadia, which must be increased to 270,000 stadia, in consequence of the above error, and independently of any incorrectness arising from the supposition that both Rhodes and Alexandria were upon the same meridian, which is not the case. This certainly presents a striking instance of the uncertainty which attaches to ancient measures, and consequently of the hesitation with which the length of the stadium, as deduced from those measures, ought to be received.

A new and important era was now formed in the history of geography, by the final triumph of the Roman arms, and the diffusion of the Roman eagles over the greater part of the known world. Science, indeed, did not follow in the train of those renowned conquerors, whose attention was long confined solely to what would contribute most to their success in the field. But an accurate knowledge of the distances of places, and the nature of countries, was indispensable to that success, and the Romans thus became the surveyors as well as the conquerors of the world. Camps were erected at proper intervals, and roads

constructed for the more effectual communication between the various parts of their extensive empire, till, at length, the art of surveying was conducted according to system. Each new conquest produced a new survey; and an itinerary map of the scenes of action always graced the triumphal entry of the conqueror on his return to the Roman capital. The threatened invasion of Hannibal, by way of Spain and Gaul, at the commencement of the second Punic war, occasioned a survey of those countries to be made. Æthicus, in the preface to his *Cosmographia*, informs us that Julius Cæsar obtained a decree of the Senate, for a survey of the whole Roman empire, then containing about two-thirds of Europe, with a considerable portion of both Asia and Africa. Three men were chosen to conduct this extensive work, who were equally eminent for their scientific and general knowledge. Each had a distinct region assigned him. The eastern part of the empire was allotted to Zenodorus, the northern to Theodotus, and the southern to Polyclitus. This survey was begun during the consulship of Julius Cæsar and Marc Antony, about forty-four years before the Christian era. It occupied more than twenty-five years, and was completed in the consulship of Sentius Saturninus, about nineteen years before the birth of Christ. This great work has not reached modern times in its original form; but it doubtless furnished materials for most of the geographical works on those parts of the globe that appeared during the two following centuries.

The victorious arms of Rome caused the wealth of the conquered nations to flow into the imperial city, and the mistress of the world became equally distinguished for her luxury and her power. This grand stimulant of mercantile enterprise was followed by its legitimate consequences, and commerce explored new regions. Even those which had previously been considered as inaccessible to man, were ransacked for the gratification of ambition, or the indulgence of appetite. The range of commerce was greatly extended, and not merely the maritime parts, but the interior of both Africa and Asia were visited. None of the Roman authors treated directly on this subject, and Pliny, therefore, is the only writer who merits particular notice in a brief history of geography. He has preserved many fragments of works that are now lost. The *Periplus* of the Erythrean Sea was a nautical and commercial itinerary ascribed to *Arrian*, a Roman merchant settled at Alexandria. *Isidorus* of Charax composed another geographical itinerary of the Parthian empire.* But these sterile nomenclatures bear no comparison with the animated picture of Germany drawn by Tacitus. Yet this beautiful delineation of manners and customs does not offer much precise geographical knowledge, and leaves us great cause to regret the loss of Pliny's history of the Germanic wars. It also appears, from Pliny's account, that *Agrippa*, caused a description of the Roman Empire to be made under his own inspection; that king *Juba* wrote commentaries upon Africa, principally derived from Carthaginian works; that *Statius Sebosus* composed an account of the Fortunate isles; and that *Seneca* wrote memoirs on India, which, as well as those of several generals and envoys, were deposited in the archives of *Palatium*.

Pliny, like many other ardent minds, grasped at universal knowledge, and it cannot therefore be surprising if in some branches he should be found defective. His geographical information wanted a scientific basis, as well as discrimination in its details. He appears to have copied, where he should have analyzed; and for want of a sufficient distinction between the works of his contemporaries and those of ancient authors, he has been accused of presenting, in several instances, an incoherent assemblage of facts of different ages. He seems to have been destitute of fixed principles relative to the magnitude and configuration of the earth, and to have hesitated between the notions of Eratosthenes and Hipparchus on this subject. His ideas, however, concerning the extent of the three parts of the known world,

are clearly expressed in a passage where he says, that Europe is equal to a third, plus an eighth, of the continent; Asia equal to a fourth, plus a fourteenth; and Africa equal to a fifth, plus a sixtieth. This statement, however, in justice to its author, ought to be regarded as conveying only an approximate idea of the relative magnitudes of the different parts, for, notwithstanding the apparent precision which his fractions present, it was impossible to attain accuracy on the subject. Besides, the sum of his fractions exceeds unity; or the extent of the several parts taken together is greater than that of the whole. It affords, however, a strong refutation of those writers who wish to extend the knowledge of the ancients to China, and beyond the equator.

The principal additions which the Romans made to the previous geography of Europe, relate to the northern regions, and the Britannic isles. Their armies had discovered the course of the Danube in Germany and Pannonia. On the north of the Danube, Germany was known as far as the Vistula and the shores of the Baltic, which they regarded as the ocean, and in which Scandinavia, the Thule of Pytheas, and other countries, were placed as islands. On the north-east of the Danube, and the Ister, they found many warlike nations, between the northern branches of Caucasus and the borders of the Baltic Sea. This sea they denominated the Sarmatic Ocean, from the Sarmates, one of the German tribes, and thought it joined the Scythian Ocean, with which they conceived the Caspian to have a communication. Towards the banks of that imaginary ocean, and on the plains which constitute the central regions of the present Russia, they placed the Riphean Mountains. The Volga appears to have been partly known, but it was confounded with the Tanais. The interior countries on the east of Germany were not traversed by the Roman armies, and remained almost unknown to their geographers. Tacitus, however, has collected some interesting information relative to the people by whom they were at that time inhabited. Cæsar's two expeditions had thrown much light upon the obscurity of southern Britain. He also placed Hibernia, or Ireland, immediately opposite the western coast of Britain, and estimated it at half the size of the latter. Pomponius Mela, who lived at the time of the conquest of Britain by the Roman arms, under the Emperor Claudian, thought that one side of this island faced the coast of Germany, and another that of Spain. Thirty years after this conquest, however, Pliny durst not venture upon a description of the Britannic Isles, though he was acquainted with the Hebrides, and even designated some of them by particular names. He indicated the exaggerated dimensions of Great Britain, according to Agrippa, which appear to have been an imperfect translation of the Greek measures of Pytheas. The southern parts of Europe, forming the more immediate body of the empire, were, of course, better known, and more accurately delineated.

The combined voyages of the ancient Phœnicians and Hebrews, whether to the city of *Ophir* in Arabia, or to the unknown land of *Ophyr*, have been too imperfectly delineated to afford any precise ideas, either of the seas they traversed, or the places on their coasts which they visited. When the Greeks first penetrated to the shores of the Indian Ocean, called the *Erythrean*, or Red Sea, they found the Sabeans-Arabs in possession of the commerce of India, and it is supposed the Phœnicians obtained from them the merchandize which for so many ages enriched Tyre and Sidon. The Arabs, notwithstanding the rudeness and imperfection of their vessels, evidently navigated these seas at a very early period, since the commodities of the East were transported to Jerusalem in the time of Solomon. In the reign of Augustus, this navigation experienced a complete revolution. *Hippalus*, at that time acquired from the Greeks of Egypt a knowledge of the trade-winds which regulate the navigation of the Indian Ocean, and it was on this account that the south-west monsoon, by which vessels arrive from the Arabian Gulf at the shores of Hindustan, received the name of

Hippalus. After this discovery the Roman mariners traversed the Arabian seas with rapidity, landed on the coasts of India, and returned richly freighted during the prevalence of the opposite monsoon. This commerce from the Egyptian coasts of the Red Sea, was carried on with activity in the days of Pliny, who minutely describes the routes by which it was conducted.

The voyage of Nearchus, by order of Alexander, with those of subsequent navigators, had made known the coasts of Asia from the Arabian Gulf to the mouth of the Indus. It was therefore to the eastward of this point that the navigation and commercial enterprise of the Romans, enlarged the sphere of geographical knowledge, and though that commerce has long since ceased, some of the places mentioned in the *Periplus* still remain. One curious and corroborating circumstance related in these ancient accounts is, that part of the Malebar coast, between Bombay and Goa, was, at that early period, noted for its *Pirates*, who have infested these seas, and annoyed commerce, from the earliest era to the present moment. The chief of these marauders was taken in his principal fortress, in 1756, but the whole power of the English has not yet accomplished their extirpation.

On passing the island of Taprobane (Ceylon), and arriving on the coast of Coromandel, much error and obscurity are mixed with the account, and the outline, though sometimes correct, is in general filled up with fables. Pliny also presents the names of numerous tribes who occupied the interior of Hindustan, but without any geographic delineation of the regions they inhabited. He considered the mouth of the Ganges as the most eastern point of Asia and of the known world; and he admitted only a small space between the Seric Ocean, supposed to form the north-east boundary of that continent, and the imaginary strait by which he conceived the Caspian Sea to have been connected with the Scythian Ocean. In the systems therefore of both Pliny and Strabo, the vast spaces which are occupied by Siberia, and the elevated plains of Mongolia and China, were supposed to be buried beneath that imaginary ocean. It may consequently be fairly concluded, that vast countries existed of which the geographers in the days of Pliny had no idea.

Pliny states the breadth of Africa, from east to west, that is from the borders of Egypt to Cape Non, to be 3648 Roman miles, and the greatest breadth of the inhabited part, from the shores of the Mediterranean to the commencement of the desert, at 250 miles; but from a full consideration of all the documents relative to that era, it is evident that the Romans of that age were not acquainted with more than one-third of that continent. Pliny denotes all that part of Africa south of the Cataracts of the Nile and the country of the Garamantes, situated to the south-east of Fezzan, by the term Ethiopia, which he divides into east and west. He appears to have adopted the ideas of Eratosthenes relative to the extent of the ocean, and therefore contracts Ethiopia more than many of his predecessors. He states its length from east to west to be 2100 Roman miles, and its breadth from north to south at 1297 miles, comprising Upper Egypt within these limits. These were doubtless the measures adopted by Agrippa, in his great official work, digested from all the documents collected by the Romans, relative to this part of the globe. The Niger, according to the Roman Naturalist, was only the western branch of the Nile, and this opinion was greatly strengthened by the circumstance that the Crocodile and the Hippopotamus were inhabitants of both rivers, and that the *papyrus* also grew upon the banks of each.

The Canary islands were known to the Romans as early as the latter end of their Republic, when Sertorius, a refugee in Spain, and some others, were informed that, at the distance of about 10,000 stadia from that coast, there were two islands possessing the most desirable climate, and abounding with all the productions of nature. The term *Fortunate* was

bestowed on them in consequence of the mythological fables of ancient poesy, and Horace, the most philosophical of the Roman poets, has attributed to them all the advantages and charms with which the Homeric Muse invested her isles of the blessed.

Before attempting to delineate that revolution which the science of geography experienced by the myriads who rushed like a torrent from the bleak regions of the north and overwhelmed the Roman Empire, one parting glance at the last of the Greek and Roman writers becomes necessary. These masters of the world, as they conceived themselves to be, chiefly confined their efforts in geography to composing such itineraries as could be rendered subservient to the progress and prosperity of their armies; and even Rome did not contain science sufficient to mould these multifarious materials into a systematic form. Tyre and Alexandria still continued the two foci of geographical knowledge. *Marinus*, a native of Tyre, flourished during the first century of the Christian era, and his work is only known to us by the extracts preserved in Ptolemy, which are sufficient to prove that he was greatly indebted to his predecessors for many of the materials which he employed. Such has ever been the influence of custom and prejudice, that the germs of the most eminent discoveries have often lain dormant for ages, till some kindred genius arose to remove them from the mass of rubbish under which they were buried, and give them their proper place among the principles of science, or extend them beyond the conceptions of their original authors. This was the case with geography. The obvious advantage of determining the situations of places by means of latitude and longitude, and expressing these in degrees and minutes, as introduced by Hipparchus, was entirely neglected for nearly two centuries after the death of its author.

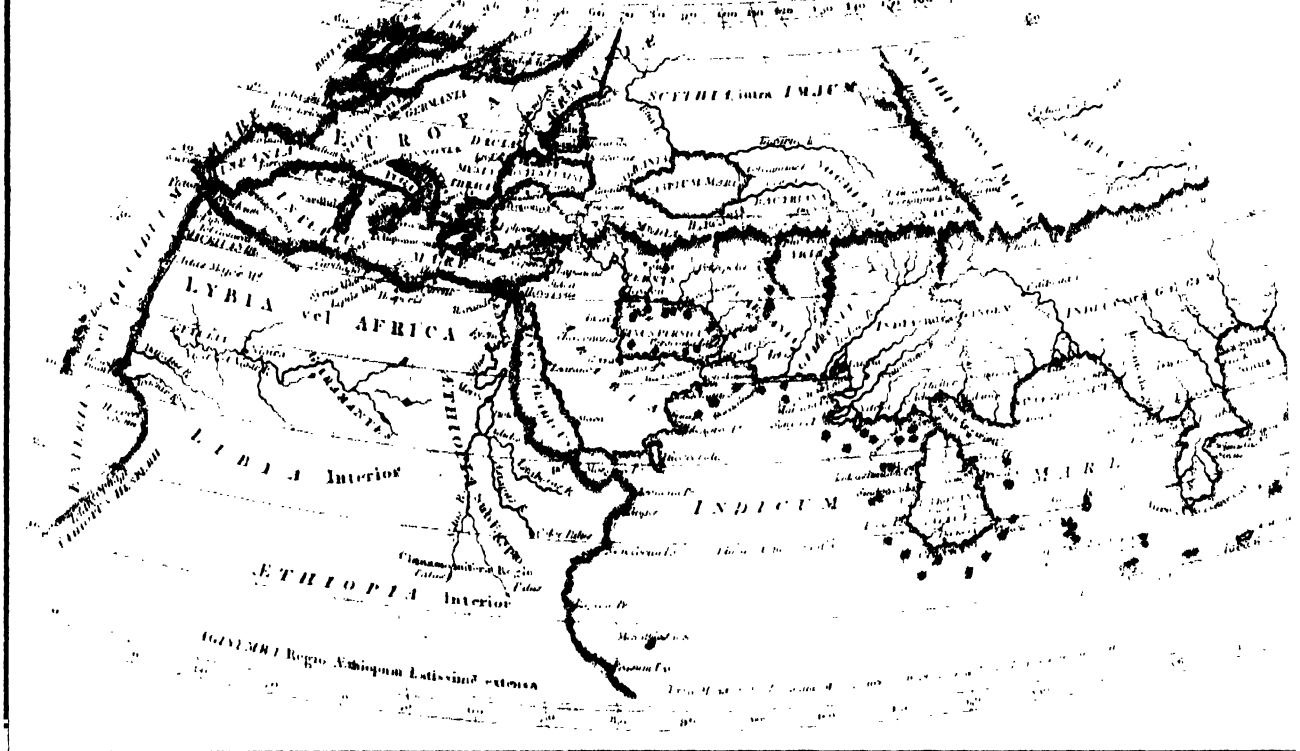
Ptolemy's labours consisted chiefly in an attempt to fix the positions of the principal places on the surface of the globe according to astronomical principles. During the reigns of the Antonines the Roman Empire had attained its greatest extent. All its provinces had been surveyed, when Ptolemy composed his celebrated geographical work, which was no less an undertaking than that of comparing and digesting into one uniform system, all that had been done on the subject by his predecessors, and of translating the results into the new astronomical language of degrees and minutes. The principal materials for this great undertaking were the proportions of the gnomon to its shadow; observations on the longest day; the numerous geometrical measures and surveys that had been taken prior to his time; and, what possessed far less accuracy, the various and vague estimations of navigators and travellers. Though Ptolemy undoubtedly excelled his predecessors both in qualifications and opportunities for improving the science of geography, and determined the longitudes of many places by means of lunar eclipses, yet he could not possess astronomical observations either sufficiently accurate or numerous for determining all the latitudes and longitudes he has given. Many of his data were therefore doubtful, while indeed, his conclusions necessarily partook of the imperfection of his materials. It cannot be surprising that an undertaking of this kind, accomplished at a period when science and knowledge had made so inadequate a progress, should contain numerous errors, independently of those which the inattention of subsequent Editors have introduced into the genuine text. Nor do these errors relate merely to distant regions, which, by their situation, were beyond the reach of both astronomers and surveyors, but to the countries which constituted the immediate theatre of the Greek and Roman world. War and commerce had caused the Mediterranean sea to be constantly traversed by the vessels of all the contiguous nations; several great empires had their capitals near its shores; and most of the ancient astronomers had made their observations in its vicinity; yet even were the errors of Ptolemy show that his materials wanted that accuracy which is absolutely

necessary for attaining correct results. The latitude of the ancient Byzantium, the present Constantinople, as given by Ptolemy, was $43^{\circ} 5'$; but it is found by modern observations to be only $41^{\circ} 1'$; the difference therefore is $2^{\circ} 4'$, or more than 140 English miles. The latitude of Carthage he made $32^{\circ} 20'$, which has since been ascertained to be $36^{\circ} 52'$, a difference of $4^{\circ} 32'$, or 314 English miles. Notwithstanding, however, that many of Ptolemy's latitudes were incorrect, his greatest errors were in longitude, and which are evidently such as to imply something radically defective in the fundamental principles of his system. Fixing the first meridian at the Fortunate islands, the most western land then known, the places were consequently all reckoned eastward, and their errors were all in excess, and increased nearly in proportion to their distance from the commencement of the reckoning. The length which Ptolemy assigns to the Mediterranean sea is too great by nearly $20\frac{1}{2}$ degrees or 410 leagues; while the eastern mouth of the Ganges is placed 46 degrees, or 920 leagues, more to the east than its true position.

Different hypotheses have been assumed to account for these anomalies. Ptolemy has been supposed to have adopted the measure of the earth found by Eratosthenes, but to have employed the stadium of 500 to a degree in fixing his positions, instead of that of 700 in which this measure was computed. This would carry all his places to the east of their true positions, as each degree would occupy only $\frac{5}{7}$ ths of its true length. To correct the errors of Ptolemy's longitudes, therefore, five-sevenths of his numbers have been taken; and the results in some cases form good approximations to the more accurate conclusions of modern times. Marinus appears to have adopted the incorrect measure of Posidonius, who made the circumference of the earth 180,000 stadia, and consequently these were only 500 to a degree. As Ptolemy derived many of his materials from this source, he has also been supposed to have followed him in this particular. Marinus, however, evidently fixed the positions of most places in his map, according to the reported itinerary distances of the caravan merchants, without allowing for the windings of the road, the delays by the way, or the manifest disposition to augment the distances in order to magnify their own achievements. These causes all combined to exaggerate the longitudes given by Marinus in a very extraordinary manner, and the distance between the first meridian of the Fortunate islands and the eastern extremity of Asia, was estimated in his system at 210 degrees; which, considering how much of the eastern part of that continent was then unknown, was nearly double its real extent. Ptolemy made numerous corrections in the distances of his predecessor, and sometimes diminished them by one-third or even one-half; yet his longitudes are still greatly in excess. The distance between the Fortunate isles and Thinae, the supposed extremity of Asia, he states at 180 degrees, or half the circumference of the globe, instead of about 125 degrees, the real difference of longitude.

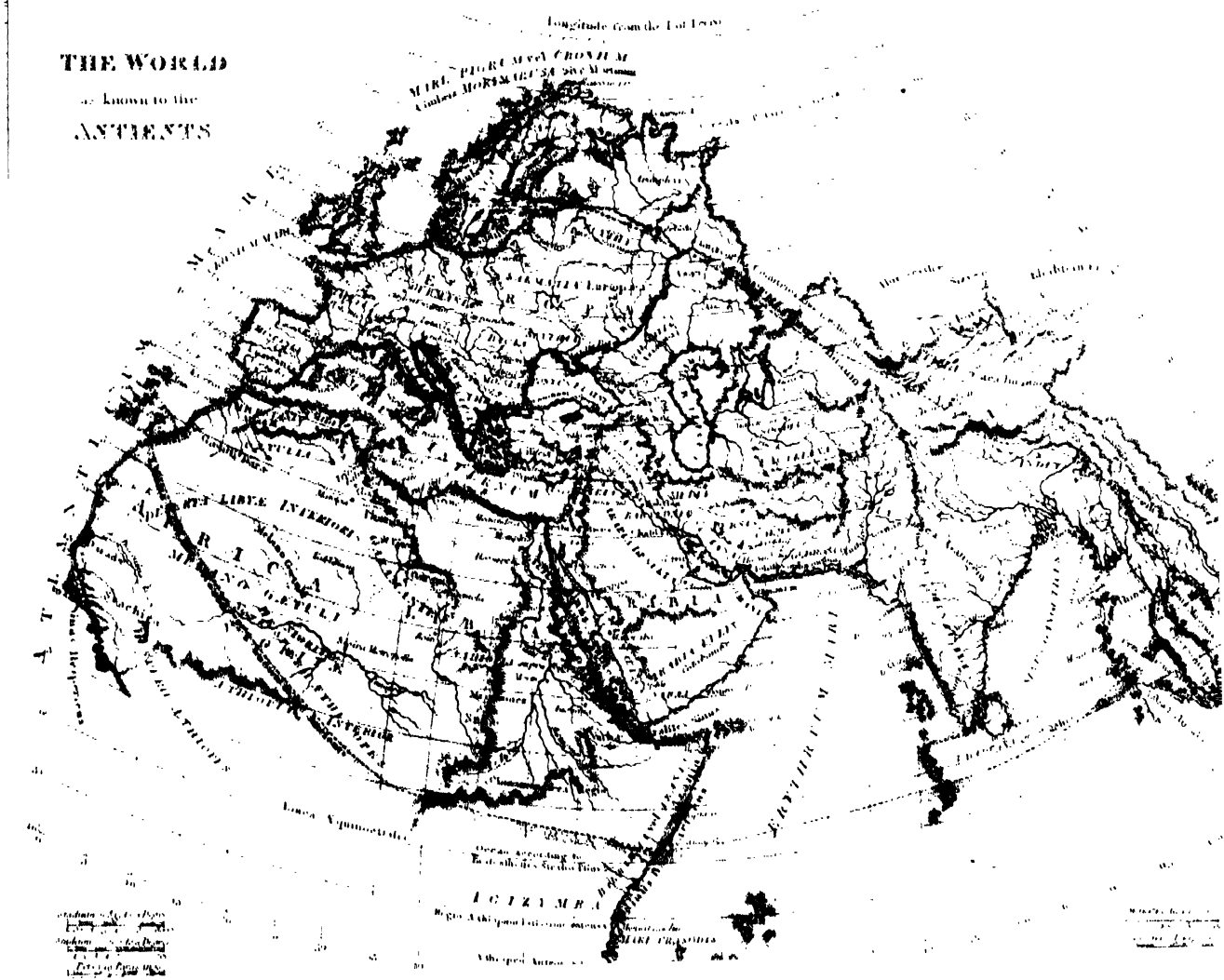
To account for this excess of error in Ptolemy's longitudes, compared with that of his latitudes, M. Gresselin, whose mind is always fertile in expedients, has supposed, that while he estimated the former in stadia of 500 to a degree, he employed that of 700 for the latter. These errors of latitude, however, do not accumulate, like those of longitude, all in the same direction; but as the Mediterranean and its neighbourhood afforded the greatest facility for observing the proportions between the length of the gnomon and its shadow, as well as for making other astronomical observations, some of the principal places near the first parallel, as Marsilles, Rhodes, and Alexandria, offered as good approximations to the truth as the imperfect means of making the observations would permit; while those that were more distant either to the north or south, and consequently depend chiefly upon the itineraries of voyagers and travellers, are more incorrect, a circumstance which appears sufficient to account for the errors in latitude, without the supposition of a different stadium having been employed.

SYSTEM OF PTOLEMY



THE WORLD

as known to the
ANTIQUITY



In attempting to trace the real improvement which Ptolemy introduced in delineating the outlines of the known world, and specifying the leading features of that accession of real information which he accumulated, a few brief observations on each of the grand divisions of the ancient world must suffice. The western part of Europe is much more correct, both in shape, extent, and position, than in former systems. Great Britain is removed from the coast of Spain, but the Scilly islands still seem to adhere to the Peninsula, and are placed near Cape Ortel. The outlines of England and Ireland are more accurately drawn, and even some part of the coast of Scotland approaches much nearer to reality than before. But Ptolemy has committed the singular error of placing the greatest extent of this northern division of Britain from east to west, instead of north and south, which he is supposed to have done in consequence of the excess his latitudes assumed in these northern regions. Thule he regarded as the northern extremity of the known world, and this he had fixed by some means, not well ascertained, in the 63d degree of latitude. The northern extremity of England reached the 59th, which did not leave sufficient space for Scotland in its natural position, and it was therefore sketched from east to west. The coast of Germany seems to have been well known to this Geographer, and even his delineation of the Peninsula of the ancient Cimbric Chersonese, the modern Jutland, is not destitute of all resemblance to its true figure. But Scandinavia appears only as an island, about 100 miles long, and fifty broad, accompanied by three others of less extent; the whole group being denominated *Scandiæ insulæ*. His increased knowledge of the east of Europe was evinced by a good description of the course of the river Volga, and even the Tanais, which Strabo supposed to flow directly from north to south, received from this Alexandrian geographer a curvature similar to that represented in modern maps. European Russia and a part of Poland constitute his European Sarmatia, encompassed on the north by the Sarmatic ocean. This ocean he conceived to be bounded on the east by a coast stretching to the north as far as his knowledge extended. The northern coast of Europe and the north of Asia, he represented as consisting of unknown land. A greater progress appears to have been made at this period in delineating the figure of these distant regions than in those which bordered immediately upon the Mediterranean. Spain is still too much elongated towards the south-west, and the form and *orienting* of both Italy and Sicily are incorrect, though improved.

Ptolemy represented the southern coast of Asia as running nearly from east to west, and situated much too far towards the south. This deprives India of its peninsular form though he has given many more sinuosities to the shore than it really presents. The Persian Gulf and the island of Ceylon are greatly distorted by exaggeration. He supposed the farthest extremity of Asia to extend to the south, and to be connected with the unknown southern continent which joined Africa. He also presents some new light relative to the interior of this part of the world. The Caspian Sea no longer appears as a gulf of the northern ocean, which had previously been supposed to be the case. But, though the strait by which it was thought to communicate with that ocean was suppressed, the sea itself was greatly extended towards the east. This appears to have arisen from the imperfect knowledge that was possessed respecting the lake of Aral, which was considered as a part of the Caspian, and the latter was therefore extended in the direction of the parallel instead of the meridian, while the present rivers, Sihon and Gihon, were thought to discharge their contents into that sea. From the banks of the Iaxartes on the south, and those of the Volga on the west, Scythia extended towards the north till bounded by unknown regions, and towards the east, beyond the mountains of Imaus. This chain was supposed to commence on the north of India, opposite the Bay of Bengal, and to stretch northwards to about the 140th degree of longitude. Beyond this range

a wide region extended towards the east, constituting *Seythia* beyond the *Imaus*, and corresponding, at least in part, with the present *Tibet*. Still more to the east appears the ancient *Serica* which is represented by Ptolemy as a country producing cotton and silk, and terminating the Greek and Roman discoveries in those eastern regions of the world. Many discussions have taken place relative to the situation of *Serica*, some geographers regarding it as *Tibet*, others as *China*. The commerce with that country was carried on by means of caravans from *Bactria* and *Balk*, and some of the commodities they procured, and which were considered as native products, favour one of these opinions, and some, the other. Ptolemy's assertion, that *Serica* was bounded by unknown land on the east, has been urged as an objection against its being *China*; but this loses much of its force when it is considered that these caravans could not penetrate further than the frontiers of that country, and consequently all the space from thence to the eastern ocean was to them *unknown*. Other circumstances however, appear to limit it to the regions of *Tibet*; and among these, the caravans being said to have followed a south-east direction from *Cashgar* to the capital of *Serica*, where they may have procured the productions of more eastern regions without knowing them to be foreign. Admitting these latter circumstances to preponderate, it was amidst these alps of *Asia*, on the borders of the great desert of *Shamo*, that the last glimmering light of ancient geography, which for awhile faintly illumined a part of the eastern world, became extinct.

The form of *Africa* was totally changed by Ptolemy, who, without having gained a real accession of knowledge, adopted a new line of speculation respecting it. Strabo and Pliny regarded *Africa* as a large island wholly situated in the northern hemisphere. The Atlantic and Indian oceans were therefore supposed to unite in the torrid zone, the heat of which was represented as the sole impediment in circumnavigating that portion of the world. Ptolemy adopted the notions of Hipparchus on this subject, and described the eastern extremity of *Asia* as stretching first towards the south-west, and then nearly west. Navigators had by this time sailed along the eastern coast of the African continent, to about the 10th degree of south latitude, where they found that the shore, instead of continuing its direction towards the south-west, as it had done for a great extent, suddenly changed towards the south-east. Ptolemy, as usual, continued it in that direction, and afterwards towards the east till it joined that part of *Asia* which he had supposed to stretch from east to west. This separated the Atlantic from the Indian ocean, and formed the latter into a large insulated basin, which cut off all access from Europe to India by sea. These southern regions were described as "unknown land;" a term which included all the southern extremity of the ancient world. With respect to the interior of *Africa*, this eminent geographer presents a great mass of confused ideas. His information is, however, by no means destitute of importance. The source of the Nile in the mountain of the moon, and the two great branches it receives from *Abysinia*, are well delineated; and he was the first who announced, with any certainty, the existence of the *Niger*, which had been obscurely indicated by Pliny, but on the banks of which Ptolemy places several flourishing cities. He appears to have been wholly unacquainted with the extent of the great desert of *Sahara*, across the burning sands of which there was not, at that period, any route by which the requisite documents could be procured. No further progress seems to have been made on the western coast, and the knowledge of the ancients respecting it has frequently been the subject of modern controversy.

From the time of Ptolemy, the rays of geographical knowledge, which had begun to dispel the surrounding gloom, shone with diminished lustre, till they were completely obscured by that darkness, which for so many ages hung over the intellect of the western world. But to exhibit the march of those retrogressions, a brief sketch of their principal causes is necessary,

among which, was the total overthrow of that stupendous fabric, which the self-denominated masters of the world proudly dignified with the pompous appellation, of the *Eternal Empire*. During the long and fierce struggles for dominion or independence, by which the vast structure of the Roman empire had been reared, many of the fairest regions of the known world had been successively desolated. But, as a counterpoise to these ravages, it was the policy of the Romans to civilize those whom they conquered. In the acquisition of that power, and the maintenance of the luxury which it generated, war and commerce combined in removing the errors, or enlarging the sphere of geographical knowledge. Vast regions existed beyond the verge of the Roman world, where a long state of turbulent independence had nurtured an unsuspected multitude of warriors. The flood-gates of the north were thrown open, and they rushed, with impetuous fury, over the fairer regions of the south, and precipitated the downfall of the Roman power. The distinguishing characteristic of these new hordes of conquerors, was *intrepidity*. "Inured by the rigour of their climate, and the poverty of their soil, to hardships which rendered their bodies firm, and their minds vigorous; accustomed to a course of life, which was a continual preparation for action; and disdaining every occupation, but that of war and of hunting; they undertook and prosecuted their military enterprises, with an ardour and impetuosity, of which men, softened by the refinements of more polished times, can scarcely form an idea." Totally destitute of literary and scientific acquirements, possessing neither leisure nor curiosity, for inquiring into remote events, and wholly devoid of taste for appreciating the works of art which every where met them in their progress, the tide of civilization seemed to have recoiled, and almost every vestige of refinement disappeared before them. The Romans had subdued, to enlighten and civilize; but the scene was now reversed, and oblivion followed in the train of these northern conquerors, till new names, new people, new manners and customs, and even new countries, meet the geographical historian at almost every step.

The *Western empire* was first inundated. England was abandoned to the Saxons; Gaul was occupied by the Franks; Spain by the Visigoths; and Africa by the Vandals. Italy, and Rome itself, passed from the dominions of the Herulians to that of the Ostrogoths. In vain the Eastern empire assumed new vigour under the government of Justinian: in vain Belisarius re-conquered Africa, and, in the midst of a dissolute age, revived the heroism and magnanimity of the ancient Romans, exemplifying an attachment to the Roman name, and a devotedness to the cause in which he was engaged, that the offer of a kingdom could not shake. Italy soon became a prey to the Lombards, except a few provinces on the south, which remained in the hands of the Greeks. These geographical revolutions of western Europe were, however, brought to a close, when Charlemagne secured the imperial crown of the west. But the fate of the Eastern empire was still suspended. The Goths and the Huns had ravaged the provinces of Europe: the Bulgarians, the Servians, and others, had established themselves: the Persians invaded the eastern frontiers; and the empire, already weakened by this double defence, was attacked in flank by a third and more terrible enemy, when the fanaticism of the Saracens proved irresistible.

These convulsions not only annihilated all the geographical distinctions of former times, but, as it were, buried both knowledge and science beneath the ruins of the Roman world. The monuments of art, and the repositories of mental labour, had been almost wholly destroyed by the barbarians who over-ran the west; and the effect of Mahomedan fury on the incomparable Library of Alexandria may be easily conceived from the answer of Omar to the general who had taken the city, and wished to save at least a part of that invaluable collection of ancient knowledge. "If," says he, "the books respecting which you write contain only what is in the Book of God, (the *Koran*) they are useless; if they do not agree with it, they are bad: therefore burn them." The accumulations of learning being thus annihilated, and the con-

mercial power and enterprise fostered by civilization destroyed, the geographer was not only deprived of the means of further progress, but left in doubt relative to the correctness of what remained. The chief works, therefore, in the ages immediately subsequent to those of Pliny and Ptolemy, consist chiefly in abridgments of, or commentaries on, these authors. An indistinctness as to all remote geographical objects soon took place—old and exploded theories were revived—obscurity rapidly advanced—the dim lights which remained became extinct, and Europe was enveloped in darkness.

While this state of darkness, however, brooded undisturbed over the western world, the immortal spark of Science was preserved in the east, and burning with a bright but contracted light, illuminated, for many ages, part of that hemisphere. During the convulsive struggles which attended the subjugations effected by the followers of the Arabian Impostor, and the first progress of Islamism, the sword was invariably regarded as the legitimate instrument of conversion, and the destruction of former magnificence, science, and knowledge, as the most meritorious of human duties. But when this insatiated rage became, in some measure, satiated, and the hand of all-conquering time had removed the first rude chiefs from the theatre of action, they were succeeded by more enlightened princes. The Saracens then rekindled the languid and almost expiring flame of Grecian literature; the Caliphs extended their fostering care to the advancement of knowledge; science again emancipated herself from the trammels of superstition, and “fled from the thunder of the altar to the shadow of the throne.” Nor were the auspices of Haroun and Almamon afforded in vain. Mathematics and Astronomy were assiduously cultivated, and Geography, as a natural attendant on the latter, participated in its progress. An attempt was made to measure a degree of the meridian near Palmyra. The wide extent through which the armies of the Saracens ranged, and the new routes and sources of commerce which they opened, diffused an additional light over regions before but obscurely known, and disclosed others which surpassed the bounds of former experience. It was in the descriptive part therefore, of geography, rather than in the advancement of its mathematical principles, that the Arabian writers excelled. Among those writers the works of Massudi and Ibn Haukal, who flourished in the tenth century, and of Edrisi and Abulfeda, who succeeded them in the twelfth and fourteenth, deserve to be mentioned, as eminent depositaries of the geographical knowledge of those ages. Their geography is chiefly confined to the countries that had embraced the faith of the Koran, and which had been visited by their merchants, or vanquished by their arms. Nevertheless the western regions of Europe, the deserts beyond the Caspian, and the eastern confines of Asia, did not escape their research; and though their information cannot at all times be relied upon, it is frequently rendered highly valuable by the circumstance that they formed establishments in countries that had ever been beyond the reach of the Roman arms, and in which all the enterprise of modern travellers has not yet been able to penetrate.

The perpetual hostility which existed between the Professors of Islam and all Christian nations, rendered the accounts given of Europe by the Arabian writers very imperfect, and deserving of little attention. The principal theatre of their experience was in northern and central Africa; the west, the south, and the interior of Asia. Egypt, and the Mediterranean provinces of the Roman Empire, had submitted to the victorious arms of the Saracens, who, accustomed to traverse the sandy deserts of their native regions, found even the wastes of Africa insufficient to arrest their progress. They soon formed routes across the ocean of sand, which every where bounds the northern belt of that continent, and arrived at the fertile provinces that border on the Niger. By these routes, the interior commerce of Africa has ever since been maintained. “These regions presented ample temptation to so migratory and commercial a people; colonies were therefore formed which gradually swelled into kingdoms; and the

eastern part of Nigritia was speedily covered with Arabian settlements. These, so far as can be judged from the somewhat imperfect descriptions of their geographical writers, extended from the eastern extremity of Wangara to an undetermined point not far distant from Tombuctoo. Along this range, the two ruling kingdoms were Ghana and Tocrur, to which all the rest were subjects or tributaries. The sovereign of Ghana, however, held a high pre-eminence, not only from the splendour of his court and the extent of his dominions, but from the circumstance of including within his limits Wangara, or the Country of Gold. This region, yet unapproached by modern travellers, is described by the Arabian writers as abounding with that precious metal beyond any other part of the world then known; and Ghana, as the channel through which this wealth was transmitted, became, and appears to have long continued, the great emporium of central Africa." With respect to the western coast of this continent, it appears that the knowledge of the Arabs extended beyond Cape Bojador, which arrested the progress of the Portuguese in a subsequent age. Eastern Africa, from Egypt to Cape Corientes, near the tropic of Capricorn, was frequented by their merchants in the tenth century, and their power and religion were established in many places along this extensive range of coast. Sofala, Melinda, and other ports founded by this people, were flourishing cities for ages before they were visited by Europeans. Abulfeda, like Eratosthenes, supposing Africa to terminate on the north side of the equator, represented it as being bounded by the ocean immediately beyond the mountains of the Moon. Edrisi, who was acquainted with a much greater extent of its eastern coast, repeated the error of Ptolemy, by supposing an unknown land to run parallel to the southern coast of Asia, and to connect the southern extremities of those two continents.

The Mahomedan Arabs were acquainted with the greatest part of the people and the countries of Asia. In that quarter of the globe, their armies had conquered, their merchants had travelled, and their missionaries had widely diffused the doctrines of the Koran. Persia, Cabul, Bukharia, and the finest provinces of India, were occupied by the professors of Islam; and their connexion with the adjacent districts, afforded them excellent opportunities for becoming acquainted with the central and eastern regions of the Asiatic continent. Accordingly, we find in their Tobbat, the modern Tibet, in their Cathay the northern, and in their Tchin or Sin, the southern, provinces of China and India beyond the Ganges. The Seranda of the Arabs is evidently the Serendip of the Hindoos, and the Ceylon of modern geographers. Their Lamery is identified by its productions of camphor, dyeing-wood, gold, and ivory, with the modern Sumatra. Java is denominated Al Djavah; and they had even obtained some knowledge of the Moluccas and the other spice islands, but do not indicate their precise names or positions. The northern districts of Asia were least known to the Arabian geographers, and were consequently the region of fables, which the imagination, as in all the dark ages of the world, peopled with wonders, and where *Gog* and *Magog*, the two enormous giants of the eastern world, long held their mysterious abode, in the mountains of Altai. As the Arabs had penetrated to the sea in various directions, they adopted the idea of a surrounding ocean of an undefined extent. The distant and indefinite parts of this ocean, they styled "The Sea of Darkness;" while their total ignorance of that portion which bounded Asia on the north, was emphatically expressed by "The Sea of *pitchy* darkness."

While the frantic followers of Mahomet were extending their conquests to the remote regions of the east, the worshippers of Odin were making fresh excursions into the heart of Europe. But finding these countries already occupied, and their progress checked by their hardy brethren from the same northern storehouse of warriors, the sea became the chief theatre of their warfare. Alfred the Great, King of England, Adam de Bremen, and other

authors, have preserved an account of the discoveries made by the Scandinavians of those times. These accounts embrace the countries from the western shores of Norway to the eastern side of the White Sea. In the ninth century, the Scandinavian navigators, having become bold and hardy by their piratical excursions, are supposed to have visited the most distant islands and coasts of the north sea, which were previously either unknown or seldom frequented. The Faroe islands were known to the Normans in 861, by whom Iceland was soon afterwards discovered. A Norwegian navigator, in a voyage to the Faroe islands, was driven upon the coast of an unknown land, where the mountains were covered with snow, which induced him to bestow upon it the appellation of Snio-land, or Snow-land. A second adventurer, of the same country, soon afterwards passed the winter on the northern shores of that country, and the quantity of ice he found there is a sufficient explanation of its present name. The first population of *Iceland* is stated to have emigrated from Norway in 874. The Hebrides, off the western coasts of Scotland, also became known to the same navigators in the year 893, and, with the peninsula of Cantire, were tributary to Norway in 1266. The Shetland islands remained longer undiscovered, and they are not considered as having been visited till 964. Greenland, according to the Icelandic chronicles, was discovered in 982, and peopled with Norwegian colonies in 986. Vinland, which was undoubtedly a part of the coast of Newfoundland, or of the American continent, according to the chronicles of early times, was first visited in 1001.

During the middle ages, the sovereigns of Europe were the chief promoters of geographical knowledge. Alfred, as already stated, took an active part in its promotion. Charlemagne also paid attention to its improvement, and caused a table of silver to be made, on which the whole world, according to the knowledge of the times, was described. But his treasures were subsequently so far exhausted by an expensive war, as to cause this silver world to be converted into currency for the payment of his troops. The Domesday-Book, formed by order of William the Conqueror, in the 11th century, with the subsequent description of Wales and Ireland by Giraldus Cambrensis, and the seven maps of Britain and the adjacent Isles, ascribed to the twelfth century, are proofs of a laudable attention having, at that period, been paid by the ruling powers to the statistics and topography of their kingdoms. The King of Denmark, about 1231, and some of the princes of Germany, also participated in the same meritorious zeal, by causing similar accounts of their respective dominions to be drawn up. The principal enlargements of geographical knowledge, however, during the middle ages, arose from the revolutions of Asia, by which regions and people were introduced on the theatre of the world previously unknown to Europeans. Besides various other conquerors, to whom the sword of destruction seems, for a season, to have been committed, *Jenghis Khan* precipitated his hordes of barbarous warriors from the vast deserts of Mongolia, and led them from conquest to conquest, till his dominions extended from the northern frontiers of China to the banks of the Dnieper. The victories of the Moguls in Poland, Silesia, and Hungary, spread terror among the Christian nations, and drew the attention of the Europeans to the countries whence these invaders issued, as well as to those they had subjugated; and thus the ambition of a Tartar Chief was rendered subservient to the progress of geographical knowledge. Ambassadors were also sent to the Mogul princes, and the countries through which they passed, and those to whom they were sent, were sometimes described in their journals. *Temerlane*, who was one of the most experienced and successful warriors of these times, and who himself declared that, "when he clothed himself in the robe of empire, he shut his eyes to safety and to the repose which is found on the bed of ease," also led his victorious Tartars from the shores of the Bosphorus to the borders of China.

The indefatigable spirit of commerce likewise animated the merchants of these ages, and many enterprises were undertaken which led Europeans among the Tartars and Moguls beyond the Black and Caspian Seas. The Genoese and Venetians also carried on a commercial intercourse with India by means of caravans, and as the possession of Egypt, by the Mahomedans, had closed its ports against the Christians, the coasts of Syria and the shores of the Black Sea became the western depôts of this commerce. The travels of these ages, however, present much obscurity, and but little interest. The countries to which they related were generally deserts, inhabited by wandering hordes, and containing neither cities, buildings, nor other works of art that merited attention. The maps of this period, in addition to the paucity of materials, also generally exhibit a defective use of what was known.

The effects of superstition, manifested during these dark ages, in journeys to the holy sepulchre, produced some account of the intermediate regions. But these were greatly increased when the *Crusades*, towards the close of the eleventh century, roused Europe from the lethargy in which she had so long slumbered, and gave a new and romantic interest to the east. The enthusiastic zeal spread with incredible celerity, and all the nations of Europe engaged at once in the common enterprise, which still remains one of the most singular and striking monuments of human folly recorded in the annals of Time. The frenzy, however, did not subside with equal rapidity, but occupied the attention of the European powers for nearly two centuries. Extravagant and destructive as this extraordinary impulse of the human mind was in its consequences, it was not destitute of beneficial effects, equally unforeseen and unexpected. It was, indeed, the acknowledged effect of superstition and folly, but we owe to it the first gleams of light which tended to dispel the darkness that had enveloped Europe for so many ages. It was not possible for the Crusaders to travel through so many countries, most of them more polished than their own, and to visit the regions which had become the depository of nearly all the valuable knowledge that remained among mankind, without having their views enlarged, their prejudices worn off, and their minds, in some measure, imbued with information and improvement. These expeditions also weakened the excess of local attachment, gave other countries a degree of importance in the minds of Europeans which they did not previously possess, and consequently excited their curiosity, and prompted their inquiry respecting them. The first armies that marched under the standard of the Cross were led by Peter the Hermit and Godfrey de Bouillon through Germany and Hungary to Constantinople; but the length of the way, and the difficulties they experienced, deterred their successors from taking the same route, and induced them to prefer the passage by sea to the fatigue and danger of so protracted a march. This circumstance, with the constant supplies of military stores and provisions which the armies required, gave an impetus to commerce and navigation, which not only enriched various cities and communities of men, but paved the way for the brilliant maritime discoveries which date their commencement soon after. Venice, Genoa, and Pisa, by this means, became rich and flourishing. During the general slavery which pervaded the dark ages, self-preservation was the first consideration; but the enthusiastic projects with which the Crusades now inspired the minds of the kings and nobles of Europe, were so vastly disproportionate to their means of accomplishing them, that no other expedient presented itself but that of disposing of their territories, and granting privileges and immunities to their subjects. The first seeds of liberty being thus sown by enthusiasm and superstition, their good effects did not long remain invisible. A new light began to dawn on society; new enterprises roused the mind from its lethargy; new objects courted its attention; and new efforts were made for their attainment, until the steady light of experience gradually illuminated almost every region of the globe.

Notwithstanding all the blood and treasure which had been so enthusiastically lavished, in what was denominated the sacred cause of religion, the frantic zeal of the Mahomedans finally prevailed, and the Christians were expelled from the Holy Land, towards the close of the thirteenth century. The Khans of the Moguls had ravaged Poland, Silesia and Hungary, and ruled with a rod of iron, from the banks of the Horan-Ho to those of the Vistula, when the three missionaries, Ascelin, Carpini, and Rubruquis, were successively sent to soften the hearts of the savage monarchs, and to avert the tempest which seemed suspended over Christendom, by explaining the principles and inculcating the precepts of Christianity. Ascelin, a Dominican monk, was sent by Pope Innocent IV., in 1245, and traversed Syria, Mesopotamia, and Persia, and arrived at the court of the Tartar prince, who appears to have been at that time encamped near the eastern shores of the Caspian sea. His continuance there was but of short duration, and his account of the journey relates principally to his residence among the Moguls : geography, therefore, received but little benefit from his travels

In 1246, Carpini, a minor-brother of the order of St. Francis, was sent to the Khan, who reigned in Kaptshack, and travelled through Bohemia, Silesia, and Poland, to Kiow, then the capital of Russia. Thence he proceeded through the countries south-east of Russia, along the shores of the Black sea, to the camp of the Khan of Batu. He was then sent to the Khan of Ajauk, and afterwards passing through various other countries, among which was Cashgar, he arrived at the head quarters of the grand Khan of the Moguls. After being admitted to an audience by this prince, he returned with a letter to the Pope, and subsequently drew up an account of his journey, particularly delineating the manners and customs of the people he had visited. As the accounts which the Arabian and Byzantine authors had previously given of the countries and people, through which Carpini passed, had not spread over the west of Europe, he was the first who made them known in this quarter. Besides the results of his own observations, he inserted in his work whatever he could learn from his companions, the people whom he visited, or the travellers whom he met on his route.

A report that a Khan of the Moguls had embraced the Christian religion, induced the king of France to send an ambassador to that prince. For this purpose, Rubruquis, a Franciscan monk, and a native of Brabant, was chosen, and commenced his embassy in 1253. He followed the same route as his predecessors, and after surmounting many difficulties, arrived at the city of Caracorum, situated in the desert of Cobi, where the Khan then resided. An account of these travels was first published by Hael; but the most perfect copy was afterwards inserted by *Purchas* in his Collection. As his descriptions of these distant countries and people were ample and interspersed with interesting details, they long served, in conjunction with those subsequently given by Marco Polo, as guides to future travellers. Caracorum was the utmost extent to which Rubruquis proceeded, and this city he represents as equal to St. Denis in France, and as being encompassed with a wall of earth, and containing two mosques and a Christian church. The Chinese also inhabited one of its streets. The Christians who dwelt in this city, appear to have been Nestorians, who, in the sixth and seventh centuries, are said to have carried many of the arts and discoveries of Europe as far as the borders of China, and where, according to Rubruquis, they lived in five cities at the time he visited the east. The great numbers of Europeans whom Rubruquis found among the Moguls, employed at various kinds of artisans, has been regarded as a proof that the prisoners of war, when they took, introduced the arts of Europe into the interior of Asia.

Of all the travellers of the middle ages, however, the most celebrated is *Marco Polo*, who spent about twenty-six years in the central and eastern regions of Asia. He may justly be regarded as the father of the modern geography of this continent, and his work was long

considered, in all the countries of Europe, as a geographical standard. This noble Venetian left Europe about the year 1271, in company with his brother Nicholas Polo, who had already been at the court of the Khan of Kublai, and was the first European who penetrated into China, India beyond the Ganges, and into several of the Indian islands, all of which were previously enveloped in fable. Being employed in several state missions by the great Khan of the Moguls, and the Chinese, he had travelled over all the central and eastern parts of Asia; but he has not observed much order in the descriptions which he has given of those various countries. He also traversed all the provinces of China, which he divides into two parts, called *Cathay* and *Mangi*, or north and south China. He gives a description of several of the principal cities, and among others of Peking, styled *Cambalu*, as the capital of Cathay, and of Nankin, the metropolis of Mangi. He appears however to include both Bengal and Pegu under the term Cathay. The latter of these countries he calls *Mien*, a name which it still bears among the Chinese. He also describes the island of Japan, under the name of *Cipangu*, with Borneo, Sumatra, and others in the Indian and Chinese seas. His description of India relates only to the southern coasts, but these he embraces from China to Guzerat. The manners and customs of the Hindoos, as well as the productions and commerce of the country, afford him topics for delineation. Persia and Arabia, with the eastern coast of Africa, and the island of Madagascar, have also shared his attention. Marco Polo likewise describes the northern regions of Asia, as a country rich in furs and skins, but as covered with ice and snow during the greater part of the year. Religion, politics, and commerce, the three grand motives by which men are chiefly induced to brave the dangers, and overcome the difficulties, of traversing distant countries, caused various journeys to the central and eastern parts of Asia to be undertaken during the fourteenth and fifteenth centuries. Among these travellers may be enumerated, Pegoletti, Oderic, Mandeville, Clavijo, and Barbarosso, whose relations added but little to the truths, and much to the fables, collected by Marco Polo.

The invention of the *Mariner's Compass*, which took place early in the fourteenth century, afforded a wonderful facility to the operations of navigation, and gave an additional stimulus to that spirit of emulation and enterprise, which shortly afterwards began to manifest itself in various nations of Europe. The importance of this invention, in rendering the intercourse between distant parts of the globe a matter of comparative ease and safety, influenced the minds of navigators in its favour, and induced them to put its powers to the trial. The first person who reposed sufficient confidence in this new guide, to commit himself to its direction, was Nicholas Lynn, a friar and astronomer of Oxford, who, in 1360, undertook a voyage for that purpose to the northern islands of Europe. Other experiments soon proved the great utility of this instrument, and manifested the revolution it was destined to effect in the art of navigation, and the range of commerce.

A brighter period now presents itself to the geographical historian, and a constellation of brilliant discoveries adorn the fifteenth century. Portugal, at that time unrivalled as a maritime power, took the lead in this career of naval enterprise. The great extent of Africa, and the heat of the torrid zone, had induced most of the ancients to infer the impossibility of sailing round its southern extremity, and, at the commencement of the fifteenth century, Cape Nun was the limit of navigation, on the western coast. But prince Henry sent out an expedition in 1415, with orders to pass that Cape, and explore as great an extent of coast as possible. This order of passing the previous limit was executed, and the navigators proceeded as far as Cape Bojador, situated about the 26th degree of north latitude; but the tempestuous ocean that beat around that point, deterred them from attempting to double it, and the impression of dread, which its appearance seems to have made on the

minds of these mariners, retarded, for a time, any further attempts for its accomplishment. A latitude beyond that of the Canary islands, however, had now been attained, while the invention of the compass enabled the intrepid mariner to launch into the wide expanse of the ocean. These islands were therefore discovered in 1417, and Maderia in 1420. The fertility and salubrious climate of this last island, soon caused it to be colonized. The Canaries were also peopled soon afterwards. In 1432, St. Mary, one of the Azores, was discovered. The other islands belonging to this group, were gradually disclosed, and their discovery completed about 1450.

The fearful barrier of Cape Bojador was again approached in 1433, with additional courage and perseverance, by Captain Gillianez. The difficulties were no longer insurmountable, and he planted the cross in triumph on the opposite coast. This formidable obstacle being overcome, the navigators proceeded along the coast with greater rapidity; but as their course lay along the barren shores of Sahara, which presented nothing to animate them to new discoveries, they returned, with the sole satisfaction of having vanquished difficulties which had previously been attempted in vain. Nunez Tristran doubled Cape Blanco, in 1441, and a settlement soon afterwards took place on the island of Arguin. The coast in these latitudes began to wear a more favourable and inviting aspect; and the Senegal, the Gambia, with Cape Verd, and its opposite islands, were successively discovered. It was not, however, till 1472, that the equator was passed, and the southern hemisphere visited. The settlement of Elmina, formed on the Gold Coast the preceding year, became the capital of their establishments, and the point of departure for future discoveries. In 1484, Diego Cam discovered Congo, sailed up the river, and brought several of the Chiefs to Portugal. Hopes then began to be entertained of discovering a passage by sea to India, and Bartholomew Diaz was sent out for the purpose of making further discoveries in that direction, when he arrived within sight of the grand southern promontory of Africa; but the tempests that then prevailed, prevented him from passing it, and induced him to denominate it *Cabo Tormentoso*, or the Cape of Tempests. King John, II., however, to whom the intelligence of this discovery showed the possibility of visiting, by sea, the regions east of Africa, gave it the appellation of the Cape of Good Hope, as an omen of future success. Prior to the return of Diaz, the king had sent Covilham and De Payva, by way of the Mediterranean, to explore the coasts of the Red Sea and the Indian Ocean. Covilham also visited Hindustan, and afterwards crossed the Indian Ocean to Sofala, and thence proceeded northward, along the eastern coast of Africa, till he arrived at the isthmus of Suez. With the information thus acquired from both the coasts of that continent, there remained little doubt either as to its form, or the possibility of a passage round its southern extremity. The terror, however, which the first appearance of the Cape had infused into the minds of the navigators by whom it was visited, caused this desirable object to remain sometime longer unaccomplished. At length, in June 1497, *Vasco de Gama* sailed from Lisbon with a new expedition, surmounted the difficulties that had deterred his predecessors, and planted the cross on the south-eastern shores of Africa. He then proceeded along the coast as far as Mozambique, to the place whence Covilham had sailed to the northward, and thus completed the circuit of that continent. Gama's ultimate object in passing the Cape, was not yet, however, accomplished. This was to visit India, and he therefore quitted the coast of Africa, launched into the Indian Ocean, and landed the following year at Calicut, the capital of the state of Zamoria, on the coast of Malabar. This coast was soon explored, but they did not visit that of Coromandel, till after they had discovered Malacca, and some of the Indian islands further to the east. In 1506, the Portuguese appear to have reached Ceylon. Three years afterwards, Lopez Sequeira visited Malacca and some of the neighbouring isles, in search of the spice islands; but they did not form any settlement there

till after Albuquerque took Malacca in 1511. The following year one of their captains was driven on the *Maldives*. These indefatigable explorers, however, reached China in 1516, and though not permitted to penetrate into the country, they still continued to traverse the seas which bathe its coasts. From 1511 their activity became incessant in all the Indian Archipelago. Java, Sumatra, Borneo, the Moluccas, and other spice islands, were repeatedly visited; and the Portuguese flag was seen flying in all parts of the eastern seas. Thus the rich productions of Asia and its southern isles were conveyed directly to Europe by these enterprising navigators; while forts were erected for the protection of this lucrative commerce, and possession taken of territories incomparably more extensive than the narrow slip which their native country occupied on the south-western shores of Europe. Papua, or New Guinea, appears to have been the limit of their discoveries towards the east. They had doubtless visited the coasts of New Holland, but they considered it as a part of the great southern continent, the existence of which had been admitted from the days of Ptolemy. The Portuguese, however, still persevered in their attempts to penetrate into China; and, while prosecuting this object, Antonia de Mota was thrown by a tempest on the coast of Japan, where the reception he met with was so amicable as to induce merchants and missionaries to repair to that island. Their efforts were at first successful, but avarice and intrigue caused their final expulsion. *Malte Brun* concludes the chapter in which he has given a more detailed account of these discoveries in the following terms: "Such were the results of the projects formed by prince Henry; for it was the genius of this great man that animated *Gama* and *Albuquerque*, and conducted them from the western extremity of Europe to those regions where the immense eastern ocean seemed to have rent the vast mass of the Asiatic continent into a thousand islands. Nothing had been able to arrest their progress: they had doubled that frightful promontory, where the muse of Camoens saw the Genius of the Ocean, seated on a throne of clouds, waving his glistening sceptre, that tossed the ships and let loose the tempests; they had dispersed the numerous armies of the warlike Arabs, conducted by illustrious princes and valiant leaders, and defending their faith, their treasures, and their lives against a few strangers. Every thing gave way before the courage of a small European nation; all the coasts of Africa and Asia became tributary to Lisbon. But the temerity of king Sebastian finally wearied fortune, and the Portuguese power found its tomb on the bloody plains of Alcazar-El-quiber. Languishing under the Spanish yoke, Portugal beheld her magnificent empire in Asia and Africa gradually wear away till it was reduced to a few factories. The thirst for gold which had rendered the Portuguese governors tyrannical; the rising of the eastern nations; the attacks of the Dutch; and their own internal dissensions, all conspired to render the prodigies of valour which the great Castro and some other Portuguese displayed ineffectual, and rival nations succeeded to their discoveries." *Histoire de la Géographie*

Such was the impulse which the spirit of enterprise had now received, that the whole eastern world was too confined for the theatre of its operation, and it winged its adventurous flight over the unknown western ocean. While the Portuguese were thus pursuing their way to glory and riches in the east, Spain was reluctantly influenced by the vast projects of *Christopher Columbus*. From a false estimate relative to the dimensions of the globe, the ancients had extended Asia greatly too much to the east, and Columbus thought, with *Aristotle*, *Marinus*, and other eminent geographers of former ages, that the eastern extremities of Asia could not be very distant from the western shores of Europe. This happy error has been assigned as the motive which impelled him to undertake and execute an enterprise transcendantly surpassing all former examples. But that which science had apparently demonstrated to the Genoese navigator, appeared only as a reverie to contemporary governors; and

even sovereigns refused the gift of a world which he offered, till the Queen of Spain comprehended his grand design, and caused three frail barks to be fitted out to traverse the vast and unknown expanse of the Atlantic Ocean. With these vessels, Columbus sailed from Seville on the 3d of August, 1492, and pursued his course towards the west, till the dark cloud of fear, opposition, and discontent, which had gathered around him, was dispelled by the dawn of the 12th of the following October, when a new hemisphere was disclosed to his incredulous and astonished companions. The land that was thus discovered was one of the West India islands, to which he gave the appropriate name of *San Salvador*. Columbus made three subsequent voyages to this new hemisphere, and discovered the continent, with many other islands; and in the year 1494 or 1495, he founded a town in the island of St. Domingo, which was the first European settlement in the New World.

One of the officers who had sailed with Columbus also revisited the western world in 1499, but added little to the previous discoveries. *Amerigo Vespucci*, who accompanied him, published a description of a part of the new continent. As this was the first account that had appeared, the caprice of fame stamped his name upon this extensive portion of the globe, and the ingratitude of posterity has preserved it.

If it be admitted, however, that Greenland forms a part of America, the original discovery must inevitably be referred to a much earlier date, for the Norwegians visited that country towards the close of the tenth century, and are even thought to have planted a colony on Vineland, supposed to be the present Newfoundland, in 1003. However, as all maritime intercourse with those parts of the world had long ceased to exist, the great western continent could not be considered as known to the nations of Southern Europe from this circumstance.

The Portuguese and Spaniards soon became mutually jealous of their respective discoveries, and applied to the Pope for a division of the world between them. But how infallible soever his Holiness might have been considered in matters of faith, he seems to have been only an imperfect cosmographer. He does not appear even to have known that the earth was a globe, for the line of demarcation was drawn only on one side, and consequently the countries on the opposite side remained uncertain, and belonged to either power as they were approached from the east or the west. This line was therefore illusory. The discovery of America has also been claimed in honour of Martin Behem, a native of Nuremberg in Franconia, while others think he never advanced further to the west than the Azores, and that the western lands he traced on his globe were the eastern regions of Asia, which the erroneous computations of the times had extended much beyond their real position. The discussion of this subject would, however, be incompatible with the brevity of this historical sketch.

The *Invention of Time-pieces* had a sufficient influence on the means of ascertaining longitude to merit notice in sketching the progress of geography, and every subsequent improvement in their construction introduced a corresponding correction into the determination of longitude. For, though duration and space are essentially different in nature, they are capable of being applied, in a geographical sense, to the measure of each other with great facility and precision. As the motion of the earth about its axis is uniform, one hour of time corresponds to 15° of longitude, and their like parts are also proportional, and longitude may therefore be expressed by either of them with equal accuracy and clearness. The first time that a clock was used for this purpose was about the year 1500, by Waltherus, a disciple of the celebrated Regiomontanus.

It appears to have been at least suspected as early as the time of Ptolemy that the real and apparent places of the heavenly bodies were not the same, but it remained for an age much posterior to determine this difference, arising from *Refraction*. This was a circumstance which

increased the accuracy of astronomical observations, and consequently that of the latitudes and longitudes determined by them. The quantity of refraction answering to different altitudes, was first deduced from observation, and arranged in a tabular form by *Tycho Brahe*, towards the end of the 16th century; but these tables have been much improved by subsequent astronomers.

Many astronomers and geographers, who flourished during the latter part of the 16th century, conceived hopes of bringing geography to a much greater degree of perfection than it had previously attained, by means of solar and lunar eclipses; but these hopes were soon checked by experience, which proved that they were inadequate to the desired purpose. The fortunate discovery of the Telescope, however, early in the 17th century, revived these disappointed hopes, by disclosing Jupiter's satellites, the eclipses of which furnished that success which had previously been sought in vain. *Galileo* is reported to have first observed these satellites between the 7th and the 10th of January, 1610, and published an account of them in the following March; from which he appears to have early appreciated the great advantage they would ultimately produce in determining longitude. This advantage was, however, for a considerable time unattained, in consequence of the imperfection of telescopes. To reap the full benefit of the discovery, it was necessary that tables of the motions and eclipses of these satellites should be computed; and though this was previously attempted, none of sufficient accuracy appeared till *Cassini* published his in 1668. He also pointed out the first favourable opportunity of applying this theory to the rectification of longitude; and *M. Picard* went to Uraniburg, the observatory of *Tycho Brahe*, situated at the entrance of the Baltic Sea, to put his suggestions into practice. During the years 1671 and 1672, he observed two Immersions and three Emersions of Jupiter's first satellite, which being compared with the same as observed by *Cassini* at Paris, not only gave the difference of longitude on the most satisfactory principles, but also showed the insufficiency of all former methods, for accomplishing the same purpose. The improvements which have since been introduced into the lunar method of finding the longitude, have also greatly facilitated the means of determining the correct positions of places.

The seventeenth century is distinguished in the history of the world, as the era of the institution of learned societies; and their influence in the diffusion of that general, as well as scientific knowledge, which constitute a distinguishing feature of the present times, must be obvious to every reflecting mind. It is from associations of this kind, that the "coruscations of intellect flashing upon surrounding darkness, disperse while they enliven it; and the halo shining round the head of genius, darts its mild radiance upon all within the circle of its influence." Many institutions have since been formed in various countries of Europe; some expressly dedicated to the improvement of science, others to the diffusion of general knowledge, while the appropriate province of a third class, is to illuminate the dark periods of early history, to promote the study of national antiquities, and to ascertain the changes which the dilapidating hand of time, assisted by other concurring causes, has effected on the surface of the earth. The labours of a fourth class of these learned institutions, were dedicated solely to the promotion of geographical knowledge; among which may be mentioned, the *Academia Cosmographia* at Venice, founded at the suggestion of *F. Cornelli*, and which perhaps contributed more to promote the study of geography, than any other learned society. The object of its formation was to publish correct maps, both terrestrial and celestial, accompanied with geographical and astronomical descriptions. Their device was a globe, with the words *Plus Ultra*.

Notwithstanding the vast additions that had been made to the previous stock of geographi-

cal knowledge, by the recent discoveries in both hemispheres, little more than one-third of the earth's surface was yet known; and even many immense regions within this space, were either totally unknown, or invested with the delusions of fable. More than half the circumference of the globe, from east to west, had indeed been traversed, but both the northern and southern parts were unexplored. The nature of the opposite hemisphere, the limits of Asia on the east, and of America on the west, and whether they were united or separated, were subjects of mere conjecture; and even the spherical figure of the earth still rested upon theory and the observation of eclipses alone. But the security afforded by the new nautical guide, the mariner's compass, had been fully proved; the recent successes in discovery had given an amazing impulse to the spirit of adventure; the *terra incognita Australis*, still held a conspicuous place in the theory of geography; and the hopes of interest and honour impelled individuals, and nations, to fit out expeditions for the purpose of further discovery. Hence arose *Circumnavigation*, which constitutes a new and memorable era in the history of geography. By this means, the sphericity of the earth was experimentally proved; the idea of a southern continent vanished before the light of experience; and an expanse of waters, extending over nearly half the globe, and studded with numerous islands, was unfolded to the view of the daring adventurers.

Most of the islands off the eastern coasts of North America, as well as the coast itself to a high latitude, had already been discovered by *Columbus*, the two *Cabots*, and other Spanish navigators, during the latter part of the fifteenth century, while *Cortereal*, a Portuguese, carried these discoveries still further to the north, in the commencement of the sixteenth. He visited the coast of Labrador, and discovered the strait of *Anian*, the present Hudson's Bay, which he conceived to be a strait that would afford a convenient passage to India. But he perished in a second voyage to explore this passage, and his brother, who went in search of him, unfortunately shared the same fate.

The Bermudas, or Sommer island, however, were not discovered till *John Bermuda*, a Spanish captain, touched there in 1527. In 1528, Papua or New Guinea, was disclosed by *Saavedra*, a Spaniard, whom *Cortez* had sent from America to explore the Spice islands. Solomon islands were also discovered by a Spanish captain, who sailed from Lima towards the west, in 1575. In hopes of finding a shorter course to the East Indies, Sir *Hugh Willoughby* sailed from England to the north-east of Europe, in 1553. In the prosecution of his object, he entered the White Sea, and opened a commercial intercourse with Russia at Archangel. But being unable to prosecute his voyage, in consequence of the obstruction he experienced from the ice, he attempted to winter at Arzina, in Lapland, where both himself and most of those with him perished through the intensity of the frost.

The riches which the Portuguese derived from the Spice islands in the east, and the circumstance of the Pope having invested the Spaniards with a right to all the discoveries they made towards the west, induced them to attempt a passage to India, by the southern extremity of America. *Solis*, the first who undertook this arduous enterprise, after discovering the Rio de la Plata, perished in the attempt. The smiles of fortune attended *Ferdinand Magellan* for a longer period. He sailed from Spain on the 10th of August, 1519, and discovered the strait at the southern extremity of America, which bears his name, on the 6th of the following November. A difficult and dangerous passage conducted him through this strait, when, for the first time, a European vessel floated on the bosom of that vast expanse of waters, which, from their comparative tranquillity, when contrasted with the agitation of the strait, he denominated the Pacific Ocean. He then directed his course towards the north-west, without meeting with any land of importance, till in March 1520, he fell in with the *Ladrone* islands; and then steering

towards the south-west, he discovered some small inhabited islands, on one of which he was killed. His companions afterwards discovered the Philippine Islands, whence they had passed Borneo to the Moluccas, which, with several others, were previously known to the Portuguese. Proceeding thence to about the 8th degree of south latitude, they passed the Sumatran archipelago, touched at the Cape of Good Hope, and arrived at Spain in September 1522; after an absence of three years and twenty-eight days.

The search for a passage by the strait of Anian, on the north-eastern coasts of America, having proved fruitless, and a passage to its western shores being opened by the strait of Magellan, the search was renewed from the north-west quarter, when California, and the coasts as far as New Georgia and New Cornwall, were discovered. While the Spaniards were thus navigating the Pacific ocean as they supposed in secret, the boldness of Sir *Francis Drake* displayed the British flag at once in these seas. This intrepid navigator discovered the western part of the archipelago, called Terra del Fuego, Elizabeth islands, and the southern extremity of America, to which the Dutch navigators afterwards gave the title of Cape Horn. He took possession of the western coast of America, about the 48th degree of north latitude, by the name of New Albion, in 1578; and afterwards returned to England by the East Indies, and the Cape of Good Hope, having been absent nearly two years and ten months.

The desire of finding a shorter route to India, has at all times given rise to some of the most hardy enterprises, and these having failed towards the north-east, the north-west became the quarter in which the passage was earnestly sought. *Martin Frobisher* sailed from England in 1578; and in searching a passage in this direction to China, fell in with the western coast of Greenland. Davis's Straits were discovered in 1585, Hudson's Bay, in 1610, and Baffin's Bay, in 1662, by the captains whose respective names they bear, in their fruitless endeavours to find this passage.

The Falkland islands, near the southern extremity of America, were discovered by Sir *Richard Hawkins*, in 1594. The Spanish captain, *Mandana*, fell in with the Marquesas, Santa Cruz, and St. Bernardo, in his voyage across the Pacific, in 1595.

In the year 1616, *Le Maire* and *Schouten* sailed from the Texel in search of the great continent, which was then supposed to exist towards the south pole, and explored Maire's strait, between the southern coast of Terra del Fuego, and Staten Island. *Le Maire* died soon after they had passed through this strait, and *Schouten* afterwards discovered Dog's Island, Cocoa island, Traiter island, Hope island, Horn island, and some others of less note, in the Pacific ocean, and returned to Holland by way of the East Indies and Cape of Good Hope, after an absence of about two years and three weeks.

After the impulse that was given to the spirit of discovery by the circumnavigation of Magellan, there is reason to believe that the northern parts of New Holland, particularly the Gulf of Carpentaria, were visited by the Portuguese or the Spaniards, long before the period at which the discovery of this vast island is ascribed to the Dutch. As these navigators had previously discovered Papua, or New Guinea, they are supposed to have visited the north-western shores of New Holland from that quarter, as early as 1605. The Dutch having supplanted the Portuguese in the possession of the Moluccas, they enlarged their first discoveries of New Holland in 1616, greatly extending their knowledge of it from that time to 1644. During the first of these years, Batavia, some parts of the coasts of New Holland, and the southern parts of Van Dieman's Land, were made known by the three Dutch navigators, *Shilberg*, *Hartag*, and *Zeechen*.

In 1642, the celebrated Dutch navigator, *Abel Jansen Tasman*, left Batavia with two vessels, and circumnavigated New Holland, though at a great distance from its shores. During

an absence of one year and ten months, he discovered the northern part of Tasmania, New Zealand, Pylstaart, and the Friendly Islands; and proved New Zealand, as well as New Holland, to be insular. A considerable island in the south Atlantic Ocean, to which Cook afterwards gave the name of Georgia, was discovered by *La Roche*, in 1675. The Carolines were made known by the Spaniards, in 1682, and New Britain and New Ireland by *Dampier*, in 1700. This English circumnavigator also discovered Easter island, Mischievous island, and some others in crossing the Pacific, in 1722. Commodore *Byron*, in his voyage round the world, between 1764 and 1766, fell in with King George's island, Prince of Wales's island, Duke of York's island, and Byron's island. The islands known by the names of Queen Charlotte, Egmont, Gloucester, Cumberland, Prince William Henry, Osnaburgh, and Whitsun, were discovered by Captain *Wallis*, during his circumnavigation of the globe. He also fell in with Otaheite Sander's island, and Howe island, as well as with Scilly, Kepler's, and Boscawen's islands. To these he afterwards added Sandy island, Long island, New island, Small Key island, and Wallis's island. Sandwich island, Admiralty islands, and Stephen's island, were, in 1767, added to the stock of previous discoveries, by Captain Carteret. The French circumnavigator *Bougainville*, between 1766 and 1769, discovered Navigator's islands, (the knowledge of which was afterwards completed by *La Perouse*) and the great Cyclades, a part of which chain had been previously visited by *Quiros*. The archipelago of Louisiade, was also discovered by this intrepid navigator, whose enterprising courage was only prevented from reaching the eastern coasts of New Holland, by the failure of his provisions.

Notwithstanding all the discoveries of the last three centuries, which had not only so vastly extended geography, but had completely changed the features of the known world, much even of the outlines yet remained to be disclosed, and more to be defined. The extent and boundaries of the Pacific had by no means been ascertained. The limits of Asia and America towards the north were uncertain, and even their separation from each other was still doubtful; and a vast continent, the *Terra incognita*, was still supposed to encompass the south pole. "It was for Britain, during the last reign, and our immortal Cook, to complete the survey of this vast expanse of ocean. He completely proved the non-existence of a southern continent, examined the north-west coast of America, explored the eastern coast of New Holland, sailed round New Zealand, proved it to consist of two separate islands, discovered New Caledonia, and made Europe intimately acquainted with the beautiful groups of the Society, the Friendly, and the Sandwich islands. His discoveries received additional value from the profound science of Banks and Solander, by whom he was accompanied." This distinguished navigator made three separate voyages between 1768 and 1780. In the first two he encompassed the globe in a high southern latitude; and in the last, having ascertained the proximity of the Asiatic and American continents in a high northern latitude, he returned to the Sandwich islands, where he was killed by the natives of Owhyhee, on the 14th of February, 1779. The advantages which geography derived from the voyages of Captain Cook ought not to be estimated merely by the discoveries he made. Fanciful theories vanished before his experience; regions already vaguely known were explored by his perseverance; the natural sciences were extended; and even the moral history of man gained much by that tone of simple truth which he substituted for the romantic descriptions of his predecessors.

The Pelew islands first excited the attention of the English in 1783, by the shipwreck of Captain *Wilson*; but they had been previously discovered by the Spaniards, by whom they were called Palos islands, from the abundance of tall palm-trees they produced. Other French and English navigators subsequently visited many parts of the vast Pacific, and "found still some gleanings after so rich a harvest." *M. Peron*, Captain *Flinders*, and others have recently

added much to our knowledge of that extensive group of islands included under the general term of *Australasia*.

The enterprising spirit of Europeans had thus, in a great measure, ascertained the extent of the oceans, and explored many parts of the coasts; but the geography of the globe was still imperfect while such immense regions in the interior of the spacious continents remained unknown. "Africa in particular excited attention, not only by the great extent of its *terra incognita*, but by the promise of interesting discoveries which it afforded, could the veil be withdrawn." The shores of this continent had long been visited by numerous vessels; but as the object of these was only the nefarious practice of the slave-trade, or perhaps that of plundering the coasts, their business was too confined, and their views too sordid, to admit any attempt to penetrate into the interior. Some scattered rays, indeed, had been reflected upon Europe from this quarter; but they only served to render the darkness more visible, till the noble principles of science had been awakened to the situation of that dreary continent, and the still more noble feelings of British philanthropy had been called to the subject. The year 1788, by the establishment of the African Association, forms a new era in the annals of African discovery. Interest no longer constituted the object for which its interior was to be explored, nor violence the means to be adopted for effecting this purpose. Their objects, at once simple and comprehensive, were the extension of knowledge and the promotion of humanity. But the knowledge which this association has been able to procure, as also what has lately been derived from other sources, must be reserved for the descriptive account of that continent. To give the most sterile abstract of the information obtained by the daring *Ledyard*, the adventurous *Lucas*, the brave but unfortunate Major *Houghton*, the enthusiastic and self-devoted *Park*, the intrepid *Bruce*, the courageous and inquisitive *Browne*, and other more recent travellers, would greatly exceed the limits of this brief historical sketch.

Much of the interior of Asia was also long involved in almost total darkness, and still remains in great obscurity. Nearly all the vast central regions between the Himalah and the Altaian Mountains are scarcely known except by name. War has always been ranked among the most efficient means of bringing us acquainted with the various regions of the globe, as well as with the manners, characters, and customs of its inhabitants, under all their diversified forms. Its motives are generally the most urgent, and its views and its plans the most comprehensive; they consequently require the greatest exertion of both physical and mental powers to counteract their effects. The luxuriant regions of the east lately presented a tempting field to the great enemy of England, and an alliance with Persia was considered as requisite in accomplishing his purpose. To counteract his influence in that quarter, various embassies were sent, both from this country and the supreme government of British India. Geography has been laid under great obligations to several members of these missions, for the accuracy which they have introduced into the delineations of the regions through which they passed, and the names of *Elphinstone*, *Kinnier*, *Malcolm*, and *Morier*, will long remain as celebrated in the annals of history and geography, as on the rolls of diplomatic fame. It is to be hoped, however, that the spirit of discovery which has thus been roused relative to the central and eastern regions of Asia, both in Europe and India, will soon diffuse an additional light over the still obscure parts of that continent.

As soon as America had become known to the Spaniards, they prepared for its conquest. As avarice, however, was the motive which nerved the arm of those conquerors, the world derived little benefit from the knowledge of the interior acquired by the armies of Pizarro and Cortez, the former of whom subdued Peru, and the latter Mexico. But in recent times the policy of the Spaniards having assumed a more lenient and tolerant aspect, various missions

have been undertaken for exploring the country, and for reclaiming and instructing, rather than extirpating, the natives. There has, consequently, been a great accession of knowledge respecting the regions which they visited. The travels of Hearne and Mackenzie, joined to those of Major Pike, and Captains Lewis and Clarke, have thrown considerable light on the northern division of the New World. But the most interesting of all the travels on the American continent, and indeed the most important to science, of any that have been performed on any part of the globe, were those executed by Humboldt and Bonpland in the tropical regions of this continent. From these and other sources, the geography of the New World greatly surpasses that of either Asia or Africa, in the accuracy of its materials; and our knowledge of those regions may be considered as sufficiently complete for general description.

Not to interrupt the regular narration of discovery, a few observations, belonging to a previous period of this historical outline, have been reserved for this place. The imperfections of ancient astronomical observations employed for the purpose of determining geographical positions have already been noticed; but besides these impediments, geography suffered much from the neglect of the means that were really possessed. Even the erroneous extent which Ptolemy assigned to the Mediterranean sea was not finally corrected till towards the close of the seventeenth century, when M. de Chazelles visited the Levant, to determine the longitude of Scanderoon, Alexandria, and Constantinople, in 1693. "In this respect the exertions of the French government, and of the learned societies instituted and supported by it, were highly meritorious. Academicians were sent to make observations at many important and accessible points; and even the Jesuit missionaries, sent to the remotest quarters of the world, were previously instructed in the art of making astronomical observations, which they carefully transmitted. The memoirs of *l'Academie des Sciences*, between 1666 and 1720, contain the positions of upwards of 250 cities, determined by accurate observation. The observations of French and English travellers, have also been continually adding to this stock." The improvements which have since been made in ascertaining longitude, have likewise greatly increased the accuracy of the results. The superior construction of Chronometers, the employment of lunar distances, the eclipses of Jupiter's satellites, and the occultations of the fixed stars, have all contributed to these effects; and though a careful use of all these methods does not always enable us to ascertain the longitude with absolute certainty, they afford an approximation at all times sufficiently correct for the purposes of geography.

The magnitude of the globe we inhabit, considered merely in a geographical point of view, has always appeared an interesting question. It has exercised, indeed, the ingenuity and abilities of some of the greatest mathematicians and philosophers, in various and distant ages of the world, but the results of their researches rather prove the difficulty of the undertaking, than present a complete solution of the problem. The early mathematicians who engaged in this investigation, and whose measures have been already stated, appear to have confined their inquiries solely to the magnitude of the earth, its figure being always presupposed to be that of a perfect sphere. This was a natural supposition, prior to the invention of those instruments by which its truth could be put to the test of experiment; for a globe is the most simple and perfect of geometrical figures, and the general simplicity in all the works of nature favoured the idea of the earth being of this form. M. Fernelius, in 1525, measured a degree of the meridian northward from Paris, which he found equal to 687634 English miles. M. Snellius, professor of mathematics at Leyden, measured a degree in Holland, in 1620, which he made 6691 English miles. Mr. Norwood also measured the distance between London and York, in 1635, for the purpose of ascertaining the same object, and obtained a

result of 69·545 miles. In 1644, Riccioli measured a degree of the meridian, between mount Parnerno and the tower of Modena, in Italy. In this measurement he employed three separate methods, and obtained a mean extent of 75·066 English miles for the length of his degree. These measures were invariably founded upon the supposed perfection of the earth's sphericity; and, consequently, none of these mathematicians attempted to draw any conclusions relative to its figure, from a comparison of his own labours with those of others. But when the construction of the telescope had been sufficiently improved, the figure of the planet Jupiter was observed to differ considerably from that of a perfect sphere; while experience proved that the vibrations of the pendulum, with respect to the earth, were slower at the equator, and quicker toward the poles. To ascertain this fact, M. Richer went to Cayenne, by order of Louis XIV., and under the protection of the great Colbert, where he found it necessary to shorten the pendulum by about a line and a quarter, to make it perform its vibrations in the same time as it had previously done at Paris. These two circumstances first suggested to Huyghens that the earth was not perfectly spherical; and as his mind was well calculated for pursuing these facts through all their bearings, and combining them with whatever could elucidate the subject, the rotatory motion of the earth on its axis soon led him to conclude that it was flattened at the poles. He then applied himself to calculate the quantity of this flattening, or ellipticity, and by combining the effect of the centrifugal force with that of gravity, he concluded that the polar diameter was to the equatorial as 578 to 579. But, as he considered the effect of gravity as that of a force residing in the centre of the earth only, his solution was not founded upon accurate principles. His contemporary, the immortal Newton, undertook the solution of this problem about the same time, and upon a more correct hypothesis. He supposed the mass of the earth to consist of an indefinite number of particles, all mutually and equally attracting each other; and from this supposition, which all subsequent experience has confirmed, he calculated that the figure was an ellipsoid, having its diameter at the poles to that at the equator as 229 to 230.

The figure of the earth was now regarded by many philosophers as determined, and the ratio of its diameters, as given by Newton, as a correct standard of reference. But these were both derived from mathematical reasoning alone, and unconfirmed by experiment. All the previous measurements were subject to several inaccuracies, both from the imperfection of the instruments that were employed, and the little attention that had been paid to minute circumstances in making the observations. "The Academy of Sciences at Paris, perceiving from these considerations, the necessity of a new measure of the earth, represented the execution of it as a matter of national honour and importance. All the states of Europe were now enjoying the blessings of a profound peace; and in this interval of happiness and repose, when the voice of genius could be heard, and the talents of individuals united, and directed to one object, the Academy, with a zeal not always to be found in large bodies of men, were unanimously disposed to encourage and assist in the undertaking. This was a favourable moment for the sciences; both the king and his ministers were men of liberal and enlarged minds; improvements were constantly made in every branch of useful knowledge, and genius had more than empty praise, as a reward for its labours." (Bonycastle's Astronomy, Let. XVI.) M. Picard was therefore fixed upon to execute this important work, and commenced his trigonometrical operations, for that purpose, in 1669; and which were subsequently extended by M. Cassini, in 1718. The first of these measurers made the length of the meridional degree 68·945 English miles; and the latter 69·119 miles. The superiority of the instruments that were employed; the care with which the observations were made; and the known abilities of the individuals by whom the operations were conducted, and the requisite calculations performed,

were strongly in favour of the accuracy of these conclusions. The surveys were undertaken on the supposition that the earth was a perfect sphere, though this had been controverted by the conclusions of Huyghens and Newton. Cassini, however, placed a greater dependance upon the accuracy of his measures than upon the deductions drawn from theoretical reasoning alone; and as the arc which he had measured was the southern part of the meridian, he asserted that the figure of the earth was that of a *prolate* instead of an oblate spheroid; and consequently flattened at the equator and protuberant at the poles, contrary to what the calculations of both Huyghens and Newton had assigned it. A circumstance so unexpected naturally excited inquiry, and created discussion among contemporary philosophers; and the French government, at the request of the Academy, sent out two companies of Mathematicians, in 1735, to determine the disputed point: the one to measure a degree under the equator, and the other as near the pole as possible. The former consisted of Messieurs Godin, Bouguer, and La Condamine, from France, and MM. Juan and Ulloa from Spain; and the latter, of Messieurs Maupertuis, Clairaut, Camus, Le Monnier and Outhier, joined by M. Celsius, a Swedish astronomer. The party which visited the north commenced their operations near Tornea, in Lapland, in 1736, and finished them about the middle of the following summer. Soon after their return to Paris, Maupertuis published an interesting account of their transactions; from which it appeared that the length of the degree, the middle point of which is in latitude $66^{\circ}20'$, is 69.403 English miles. The party which proceeded to the equatorial regions had greater difficulties to contend with than their friends who had visited Lapland; and, though they sailed about a year earlier, they did not complete their operations till 1741. The place fixed upon as the most favourable for the accomplishment of their object was in the Province of Quito. The Spanish astronomers published a separate account of the measurement taken in Peru, and assigned for the length of the first degree from the equator, 68.751 English miles. M. Bouguer made the same degree 68.732 miles; while the result of M. Condamine's calculations gave 68.713 miles; consequently by taking a mean of the three results, we shall have the length assigned by M. Bouguer, for the first degree of latitude. By taking the difference of this, and the length of the degree, measured on the north of the Baltic, we shall have $69.403 - 68.732 = .671$ for the excess of the latter. Between the return of the parties from Lapland and Peru, Messrs. Cassini and La Caille examined the former measures in France, and after correcting the errors which they discovered, they found the length of a degree, the middle point of which was in latitude 45° , to be 69.092 English miles; and a degree in latitude $49^{\circ}22'$, to be 69.121 miles.

These corrections had now removed the anomaly arising from the degrees in France, and all the measures coincided in proving the *oblate* figure of the earth; but it still remained to reconcile them with each other, for when taken by pairs, they gave different degrees of ellipticity, or compression at the poles. The measures in France and Peru, gave for the ratio of the polar and equatorial diameters 313 to 314; while those in France and Lapland, gave a ratio of 128 to 129; and those in Peru and Lapland, 212 to 213. Though all these were satisfactory as to the *figure* of the earth, they did not afford any precise data with respect to the *degree* of compression. The mean of them all, however, which is nearly 218 to 219, is a near approximation to the ratio previously determined by Newton; from which it differs only by $\frac{1}{10176}$ th part of the equatorial radius.

In 1743, M. Clairaut published his elaborate Treatise on the figure of the earth, in which he shows, from the Newtonian theory of gravity, the form which a body of the mean density of the earth, and revolving about an axis with the same velocity, would assume in consequence of that motion. He proves that there are two figures, (both oblate spheroids,) and only two, in

which the equilibrium would be preserved ; also that one of the spheroids, has the ratio of its extreme diameters as 1 to 680, and the other that of 231 to 233. Each of these figures is therefore equally possible ; but the first is evidently not that of the earth, and with the latter, the ellipticity deduced from the vibrations of the pendulum, does not agree, for the medium result of a great number of experiments with that instrument, gives $\frac{1}{317}$ th.

In 1752, M. La Caille found the length of a degree at the Cape of Good Hope, the middle point of which was, in south latitude, $33^{\circ} 18\frac{1}{2}'$, to contain 69·076 English miles. Three years afterwards, Boscovich determined the length of a degree of the meridian in Italy, latitude 43° , to be 68·998 miles. In 1764, F. Beccaria completed the measurement of a portion of the meridian near Turin, and deduced from his operations, an extent of 69·061 English miles for the length of the degree, the middle of which was in latitude $44^{\circ} 44'$ north. The length of a degree, in latitude, $47^{\circ} 40'$, was also found to be 69·142 miles, in the vicinity of Vienna. This was measured by Leisganig, in 1766. Two years after this, Messrs. Mason and Dixon measured a degree in Maryland and Pennsylvania, North America, which they found to be equal to 68·893 miles ; and the latitude of its middle point $39^{\circ} 12'$ north. The re-measurement of a degree in Lapland, as a correction of the previous French operations, was undertaken in 1801, and completed in that and the two subsequent years, by the Swedish mathematicians, Messrs. Ofverboom, Swanberg, Holinquist and Polander. The account of the operations was published by M. Swanberg ; from which it appears that the length of the degree, as determined by them, was 69·2689 English miles, and the latitude of its middle point $66^{\circ} 20' 10''$. From a comparison of this measure, with those made in Peru, the East Indies, and France, M. Swanberg deduces a mean ellipticity, or compression of $\frac{1}{231}$, and 3963·26 English miles, for the equatorial radius of the earth ; hence the polar radius, according to this computation, is very nearly 3951 ; and consequently the difference 12·26 miles. The difference of M. Swanberg's result, and that of the French mathematicians, taken in the same place, in 1737, is $69\cdot403 - 69\cdot2689 = 1341$ miles, or rather more than 236 yards ; which is accounted for by M. Swanberg, who observes, that the French had omitted to allow for the difference of level, in the measurement of their base.

At the same time that the Swedish mathematicians were employed in correcting the length of the degree in Lapland, the late Colonel Mudge was engaged in measuring four separate degrees in this country ; and after exercising the utmost skill and caution, in all the operations, assisted by instruments of the most excellent construction, he obtained, from very careful calculations, the following results ; viz.

Lat. of the middle point of the arc.	Length in Fathoms.	Length in English miles.
$51^{\circ} 13' 0''$	60,884	69·1864
$51 \quad 9 \quad 0$	60,825	69·1193
$51 \quad 35 \quad 18$	60,820	69·1136
$52 \quad 2 \quad 20$	60,864	69·1636
Mean of the four $51 \quad 29 \quad 54\frac{1}{2}$	60,848 $\frac{1}{2}$	69·1457

These results, however, present a singular anomaly, leading to a conclusion the reverse of that deduced from most of the other measurements ; they actually furnish lengths of degrees, which *diminish* as the latitude increases, instead of following a contrary order. Much research and controversy has been employed relative to the cause of this anomaly ; but it does not yet appear to have been satisfactorily ascertained.

In 1803, Major Lambton measured a meridional degree in the East Indies, north latitude

12° 32', which he found equal to 68·7445 miles. The next result of this kind, was that of the French mathematicians, who extended the meridian, that had previously been measured from Dunkirk to Barcelona, from this latter place, to the island of Formentera, the most southern of the Balearic isles. The first part of these operations had been executed by Delambre and Mechain; and MM. Biot and Arago, joined by the Spanish commissioners, Messrs. Chaix and Rodriguez, were appointed to complete it, a task which they accomplished, in 1808, making the length of the degree 68·769 miles, its middle point being in latitude 44° 52' north.

Lieutenant Colonel Lambton has, at various times, since the above-mentioned date, continued the measurement of the arc in India, and which he has now extended from 8° 9' 38" to 18° 3' 23"·6 of north latitude; the whole length of the arc is therefore 9° 53' 45". An abstract of the principal results of this measurement was published in the Philosophical Transactions for 1818; from which it appears that the lengths of the degree corresponding to the following latitudes were

Latitude.	Fathoms.	English miles.
9° 24' 44" north, is	60,472·83	68·719
12 2 55	60,487·56	68·736
16 34 42	60,512·78	68·765

By comparing the length of the degree, as determined in India, with those measured in England, France, and Sweden, Colonel Lambton finds $\frac{1}{1000}$, $\frac{1}{1000}$ and $\frac{1}{1000}$; the mean of which, is very nearly $\frac{1}{1000}$ of the length of the axis, for the compression of the earth. The same astronomer has also calculated the length of a degree of the meridian, corresponding to every third degree of latitude, from the equator to the pole, according to this compression; from which it appears that

	English miles.
The length of a degree at the equator is	68·704
The length.....45° of latitude	69·036
The length.....51	69·105
The length.....90	69·368

Hence, from these calculations, the difference between the length of the degree at the equator and at the pole, is 69·368—68·704=·664 of a mile, or 1168·64 yards. For the length of the degree, answering to other latitudes, see the *article* DEGREE, CHAP. V.

Besides these methods of ascertaining the figure and dimensions of the terrestrial globe, which are so intimately connected with the progress of geography, we have already mentioned the occultation of the fixed Stars by the Moon; and Mr. Treisnecker, a German astronomer, has found the ellipticity, from a comparison of a great number of these occultations, to be $\frac{1}{1000}$. The celebrated astronomer, M. Laplace, has also calculated the ellipticity from the effects of nutation and precession, and stated it, in his *Mécanique Céleste*, to be $\frac{1}{1000}$; which is nearly an arithmetical mean between the ellipticity given by nutation and that derived from the vibrations of the pendulum, or $\frac{1}{1000}$. The theory of the Moon also gives $\frac{1}{1000}$ as a result on this subject.

It may fairly be concluded, from a consideration of these various results, that the real figure and magnitude of the earth are by no means absolutely determined. The researches o

philosophers rather indicate something in the figure and conformation of the earth which is not yet known, than present a complete solution of the problem. All the knowledge and science of the present times has not been able to ascertain whether the northern and southern hemispheres of the globe are equal and similar to each other. Is the earth a spheroid of revolution? and what is the ratio of an arc of the meridian measured in any given latitude to the whole meridian? are questions that remain still to be answered. The want of homogeneity, however, in its constituent parts, appears to present insurmountable obstacles to their complete solution.

Besides the researches of enterprising travellers, and the investigations of philosophers, the improvement of geography must evidently depend upon the use that is made of the materials thus furnished, and the knowledge and discretion with which all that is curious and important is selected from this constantly-accumulating mass. This brief historical sketch cannot, therefore, with propriety be concluded without some notice of the manner in which this task has been performed. On extending the retrospect to the commencement of modern geography, we immediately perceive the labrious Sebastian Munster, the learned Ortelius, and the scientific Mercator, as the most prominent characters of the sixteenth century in this respect. The first of these has been denominated, by his contemporaries, the Strabo of Germany; and his *Cosmography* and other works appear, at the time of their publication, to have justly entitled him to that appellation. The *Thesaurus Geographicus* of Ortelius shows great research and much critical knowledge for the time at which it was composed; while Mercator's edition of Ptolemy's Geography, and the improvement he made in the construction of maps, but especially by daring to call in question the authority which this celebrated author had so long maintained in opposition to critical enquiry and practical research, facilitated the progress of geographical knowledge, and greatly contributed to place the modern science on a basis of its own. The *Chart* which still bears his name was invented by him about the year 1556; but the true principles of its construction were first given by Mr. Wright, in 1599. Mercator and Ortelius were both Flemings; and some authors have thought that the date of modern geography ought to commence with the time of Mercator. During the seventeenth century, that edifice whose foundation had been laid in the preceding age, continued to rise. Almost every day either banished some error, or disclosed some truth; and Cluverius, Riccioli, and Varenus reformed the whole science. The first was distinguished by his erudition; the second by his astronomical knowledge; and the third by the extent and correctness of his physical views, which were such as to be honoured with the attention of Newton, as a translator and commentator. The knowledge of ancient geography was also rendered much more regular and systematic by Cellarius. Maps were improved by Sanson in France, Blaeuw in Holland, and Burœus in Sweden. The origin of statistical science must also be referred to the same period. So early, indeed, as 1567, Sansovino presented the embryo of this knowledge; but Conrinus, Professor of History in the University of Helmstadt, who died in 1681, greatly surpassed all his predecessors in this department of science.

At the commencement of the eighteenth century, geography was still considered merely as an auxiliary science, subordinate to history. But the discussion between Newton, Huyghens, and Cassini, relative to the compression of the globe, gave mathematical geography a place among the physical sciences, and called the attention of learned societies more particularly to the subject; and the Memoirs of the Academy of Sciences for this period contain many valuable papers on this subject, by Delisle, Cassini, Borda, Pingre, Buache, La Caille, and others, the united researches of whom gave a new aspect to mathematical geography. Delisle in France, and Haase in Germany, improved the construction of maps; and, about the middle of this century, the two fathers of good geography, d'Anville and Busching,

appeared. "The historical part of the science was entirely reformed by d'Anville, who banished the arbitrary delineations which had prevailed among all his predecessors, and, from the improved stores of modern intelligence, substituted precise and accurate notions in their stead. Thus he could justly boast that he found the science of brick and left it of gold. He also corrected various erroneous ideas which prevailed respecting the extent of ancient knowledge." The object pursued by Busching was that of delineating the actual state of nations and empires; and his principal merit consists in the correctness of his details. The impulse which these two writers gave to the science is still in operation; and the names of Major Rennell and Dr. Vincent; of Gosselin, Voss, and Mannert; of Bruns, Ebeling, and Wahl, should not be withheld, among those who have rendered essential service to the diffusion of a correct taste on the subject, and to the promotion of statistical geography. Without attempting to appreciate the qualities of contemporary writers, it may be sufficient to observe, that our own age and country are not destitute of men, who, in conjunction with their able coadjutors in other parts of Europe, are fully equal to the arduous task of guiding the vessel of this science through the ocean of modern discovery.

Rapid, however, as the survey of the world, and the progress of geography, in modern times, have been, and extensive as our knowledge of the various regions of the globe now is, it must not be concluded, that nothing remains for future research to develop, that nothing is left for future travellers to explain. Darkness still rests upon some parts, and twilight yet casts its protracted shades over others. The vast regions of central Africa are mere blanks in the pages of geography; and the Alps, which guard the southern borders of the Table Land in Asia, still rise in *mysterious* sublimity; while beyond them much is unknown. The very shores of New Holland have not been explored, and darkness, perhaps, at present altogether impenetrable, rests on its interior. Nor are the limits of America freed from uncertainty; as whether it forms the southern shore of the Arctic Ocean, or pushes its immense lengths beneath the ice that for ever guards the pole, is at present the subject of research. But a more precise developement of our knowledge, both of these and other regions, must be reserved for the subsequent pages.

CHAPTER II.

ON THE

MATHEMATICAL PRINCIPLES OF GEOGRAPHY.

HAVING, in the preceding chapter, explained the rise and progress of geographical knowledge, in a manner best adapted to the information of general readers, we shall in this, and the subsequent chapters, do the same, with respect to its scientific principles, without which, no comprehensive views of the subject, as a science, can be obtained. This explanation will, therefore, embrace the developement of those principles that relate to the figure, motion, magnitude, and leading features of the earth, without any regard to the description of particular places on its surface.—The *mathematical principles* of this science, necessarily embrace two distinct objects: the explanation of those astronomical ideas that are requisite to the study of geography, and the construction and use of the various representations of the globe, and its several parts. Each of these merits a separate and distinct consideration.

Section I.

ASTRONOMICAL PRINCIPLES.

Situation of the Earth in the Solar System.

1. From the elements of Astronomy, we learn that the earth is one of those nearly *spherical* or globular bodies, which constantly revolve about the sun, and with that resplendant luminary constitute the solar system. This system contains at least thirty bodies, without including comets. These are divided into the two distinct classes of primary and secondary planets, or satellites, as they revolve round the sun, or the planets, as the immediate centres of their motions. The first of these classes, according to our present knowledge, contains eleven bodies; which, in the order of their distances from the Sun, are Mercury, Venus, the Earth, Mars, Juno, Vesta, Ceres, Pallas, Jupiter, Saturn, and Uranus. The second class contains at least eighteen bodies. The Earth has *one* Satellite (the Moon); Jupiter, *four*; Saturn, *seven*; and Uranus, *six*. These, with the central luminary, which diffuses light and heat through the whole attendant train, constitute the number above specified. The distance of the earth from the sun, is about *ninety-five millions* of miles, and its revolution is performed in the space of a year.

2. When we regard the earth only in a geographical point of view, the first thing that presents itself to our consideration, is its *figure*, several proofs of which are perceptible to the senses. They are displayed in the phenomena of the heavens, presented in terrestrial appearances, and confirmed by experience. On the ocean, where no unevenness of surface, no mountain or other interposing object intercepts the view, the heavens appear to rest upon the earth, and the apparent union forms a circle denominated the *visible horizon*. In this situation, if a vessel approach us, the tops of her masts first become visible, while by the aid of the most perfect telescopes, her lower parts cannot be perceived, whatever may be their magnitude. As she advances, more and more of her is seen, till the whole above the water is brought distinctly into view. Throughout this change, the vessel appears to rise gradually out of the sea, and to be elevated above the horizon. The contrary takes place in receding, when she gradually sinks, till totally lost; and as this happens in whatever direction she proceeds, it follows that the convexity of the earth alone interposes, and hides the vessel from our view; as represented in Fig. 1.

As this curvature of the terrestrial surface is not confined to any particular part, but the same appearances take place, wherever suitable observations are made, the only rational conclusion that can be drawn from them is, that the earth itself is either *spherical* or nearly so. If the earth were an extended plain, as the ancients conceived, distance would be the sole cause of our losing sight of an object; and consequently the *largest*, and not the highest parts, would first become visible in approaching, and be seen longest in receding; but this, universal experience shows is not the fact. If, therefore, the convexity of the earth's surface, be the real cause of these appearances, two other circumstances must inevitably follow: the apparent boundary of the earth and the heavens must be *variable*; and the more elevated the observer is, the more *distant* must this boundary appear. These are also conformable to the uniform testimony of experience; for, when a spectator advances in any direction, the horizon appears to recede before, and advance behind him; and whatever may be his change of place, he still finds himself in the centre of that apparent circle. If he stand on the sea-shore, and observe a vessel sailing from him until wholly hidden from his view, and then immediately ascend an elevated cliff, the vessel, though at a greater distance than before, again appears in sight, and confirms all his previous ideas, relative to the rotundity of the globe.

To illustrate these statements, let OBD (Fig. 2.) represent half the terrestrial globe, and O' the place of an observer, elevated above its surface; then his sensible horizon, or the boundary of his view, will be the circle H'R'; supposed to be described on the surface of the earth, where the visual rays O'H' and O'R' become tangents to the sphere. When the observer ascends from O' to a, the visual rays O'H' and O'R', become o'h' and o'r', and the boundary of his view gradually recedes from H'R' to h'r', becoming constantly more extensive, as his elevation above the earth's surface increases.—If we now suppose the observer to have changed his position from O' to P, without changing his altitude above the earth, his visual rays will obviously have been changed from O'H' and O'R' to PQ and PS, and his sensible horizon from the circular boundary H'R' to that of QS.—Again, while the observer was at O, HR was the limit of his view, and consequently the vessel sailing from O towards H', would wholly vanish from his sight, by descending below the line HR; but when he ascends to O', she would again become visible, as being within the limit of his view, H'R'.

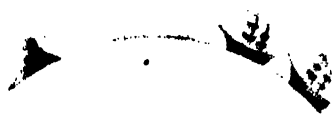


Fig. 1

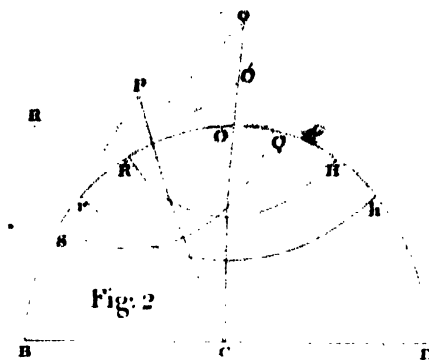


Fig. 2

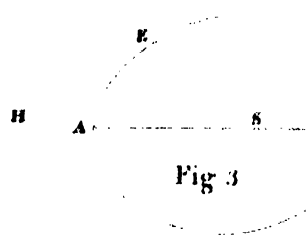


Fig. 3

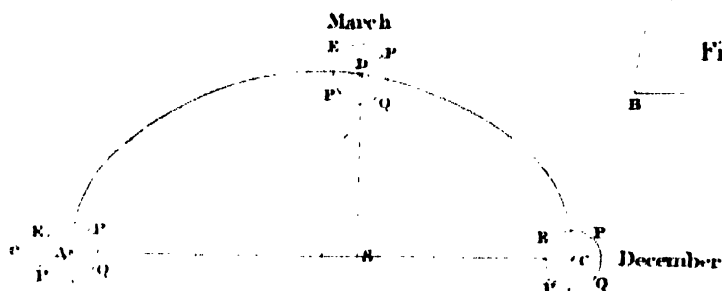


Fig. 4

March
September

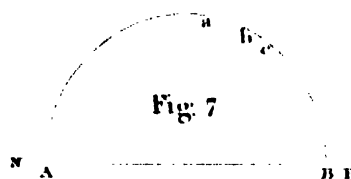


Fig. 7

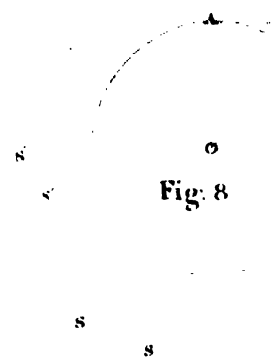


Fig. 8

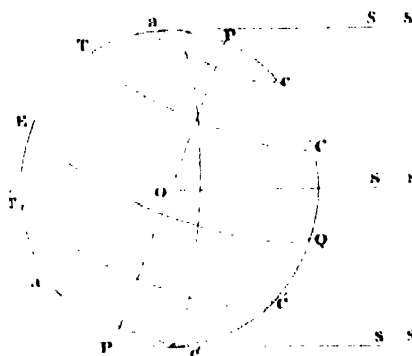


Fig. 5

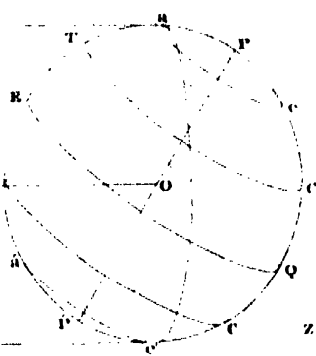


Fig. 6

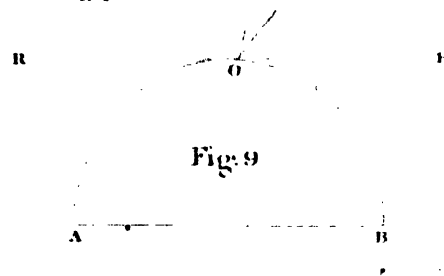


Fig. 9

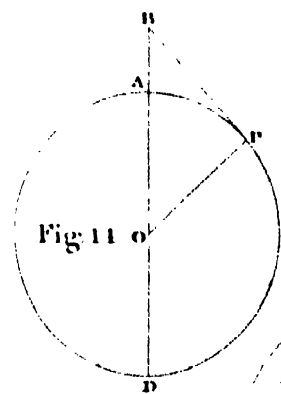


Fig. 11

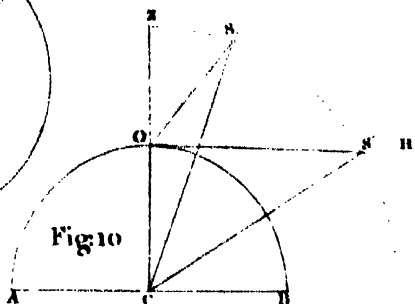


Fig. 10

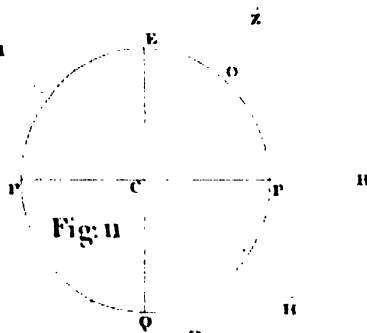


Fig. 12

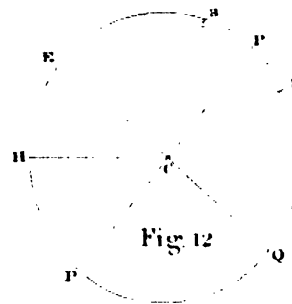


Fig. 13

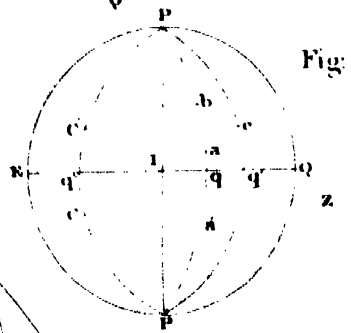


Fig. 14

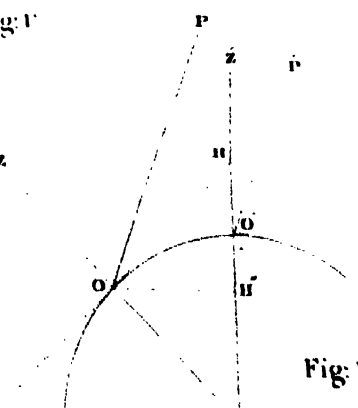
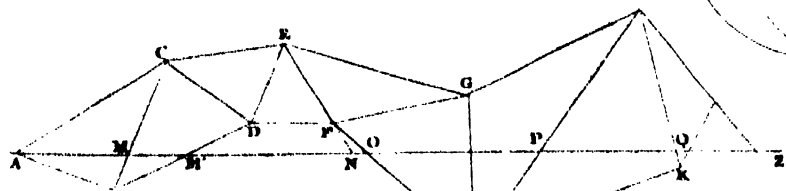


Fig. 16

Many of the celestial phenomena strikingly prove the spherical figure of the earth; but to a clear apprehension of this evidence, some knowledge of astronomy is necessary. We shall, therefore, only select the eclipses of the moon, as affording the most obvious testimony to general readers.—As all the planets, and their satellites, receive their light from the sun, they must cast shadows in directions opposite to that luminary. Now, as the moon revolves about the earth, and accompanies that body in its revolution round the sun, she is sometimes nearer the centre of the system than the earth is, and at others more distant from it. When the three bodies, therefore, are in the same right line, and the earth is between the sun and moon, she frequently passes through its shadow, and is then said to be *eclipsed*. This is evidently the true cause of lunar eclipses, for they never happen except when the lunar disk is wholly illuminated, which is when the sun and moon are in *opposition*. At that time the earth is between these luminaries, and its shadow is projected on the surface of the moon. The form of this shadow proves the sphericity of the earth; for, when the moon is partially obscured, the illuminated part always appears like a crescent, the convexity of the dark part obviously arising from the circular shadow of the earth. Now, as nothing but a spherical body can, in all positions, emit a circular shadow, and this shadow is always *circular*, the phenomenon proves the earth to be at least very nearly of that shape.

The experience of navigators also bears directly upon the same point. Magellan, Drake, Byron, Bougainville, Cook, and others, have verified the same truth, by their circumnavigation of the globe from west to east. Heemskerk, who wintered in Nova Zembla, and Cook, in his approaches to the south pole, have equally proved the sphericity of the earth with respect to those regions. Besides, the *rules* of navigation, by which these and other eminent mariners have always directed their courses, are founded upon the globular form of the earth, and as these have never led to any material error, even in their application to the circumnavigation of the globe, they must be correct; and, consequently, the basis upon which they are established indisputable.

Nor is the unevenness of the earth's surface any objection to its general sphericity; for the height of Chimborazo, which is one of the most elevated mountains on the globe, does not exceed the $\frac{1}{108}$ th part of its radius. On one of our large artificial globes this height would not, therefore, form a protuberance of $\frac{1}{108}$ th of an inch; and, consequently, could not have any greater effect on its general sphericity than the unevenness on the peel of an orange has upon its figure.—Hence, the union of all these results fully establishes the general proposition, *that the earth is a nearly spherical and isolated mass*.

3. To obtain clear ideas of the *REVOLUTIONS* of the terrestrial globe, without entering into a minute explanation of the scientific principles by which they are regulated, we must attend to the common appearances of the heavens, and carefully observe the consequences to which they lead. The first of these phenomena that arrests the attention is, that the sun and the stars seem to move from east to west, and to return nearly to the same places in the heavens, at the expiration of every twenty-four hours, and are constantly varying their apparent positions during the intermediate period. Since it is evident, that if two objects change their relative situations, one of them, at least, must be in motion, we immediately conclude, that either this motion of the heavenly bodies is real, or that we are ourselves in motion, but in a contrary direction. Now, as the laws of nature afford no instance in which Creative Wisdom has preferred a circuitous and complicated mode, to a simple and direct method of producing the same effect, we immediately conclude, that it is not the sun and stars, but the *earth* that is in motion. It has likewise been indisputably proved, that the distances of the heavenly bodies are so great, and the circles they must describe, if their

motions be real, are so immense, that the nearest of them would move with at least a hundred thousand miles a minute; while precisely the same appearances would result from the simple rotation of the earth on its axis. The adoption of this latter movement, as the cause of the apparent revolution of the heavens, also harmonizes with all the known laws of nature, and is established beyond a doubt, when we reflect upon the vast *magnitude* of the heavenly bodies, as well as upon their amazing velocities, in comparison with that which is necessary for the earth to produce the same effect. The sun is more than a million times larger than the earth; and many of the stars may surpass that luminary in magnitude, and are inconceivably more distant.

By admitting the earth to make one complete revolution on its axis, from west to east, in 24 hours, all the celestial phenomena are rendered incomparably more simple. On the contrary, if these bodies revolve round the earth, all their diurnal motions must vary with their declinations, by which they would be rendered too complex to be explained by any of the laws of which we have yet any conception.

The sun was doubtless designed to diffuse the genial influence of his animating beams over the various regions of the terrestrial globe; and this is more simply, and beautifully, accomplished by the rotation of the earth, than by any other conceivable method. This rotatory motion is also analogous to what is observed both in the sun and several of the planets. There are likewise terrestrial phenomena, which can only be accounted for on the principle of rotation. The equatorial regions are more elevated than the circumpolar, and yet the waters do not descend from this elevation and inundate the lower parts. This is prevented by the rotation of the earth about its axis; as may easily be verified by a simple calculation, founded upon strict mathematical principles.

This revolution of the earth is called its **DIURNAL MOTION**, and gives rise to the regular succession of day and night, and the various apparent changes in the spectacle of the heavens. Some of these bodies are constantly ascending above the horizon, and others descending below it. "For, as the globe turns regularly round upon this imaginary line once in every 24 hours, and only one half of it can be illuminated at a time, it is evident that any particular place will sometimes be turned towards the sun, and sometimes from it; and being constantly subject to these various positions, will enjoy a regular return of light and darkness. As long as the place continues in the enlightened hemisphere, it will be day, and when, by the diurnal rotation of the earth, it is carried into the dark hemisphere, it will be night. The motion of the earth on its axis is from west to east; and this occasions the apparent motion of the celestial bodies in a contrary direction. The sun, for instance, seems to make his daily progress through the heavens from the east towards the west; but this is an optical illusion arising from the opposite motion of the earth: for a spectator being placed in any part of the dark hemisphere, will, by the rotation of the earth upon its axis, be brought gradually into the enlightened one; and as the sun first appears to him in the east, it will seem to ascend higher and higher towards the west, in proportion as the spectator moves in a contrary direction towards the east; so that whether the earth turns round on its axis once in 24 hours, or whether the sun and all the other celestial bodies move round the earth in that time, the appearances will be exactly the same."—*Bonnycastle's Astronomy*.

4. Besides the rotation of the earth on its axis, once in 24 hours, it has another motion round the sun, in the course of a year. Before men were enlightened by science nothing was more common than to confound realities with appearances, and this was fully verified with respect to the motions of the earth. The apparent daily revolution of the sun from east to west, and his apparent annual motion, from north to south, were both regarded

and many propositions that we

once doubtful into established facts; and among these is the annual motion of the earth. A series of observations of the sun showed that he did not return to the same point of the heavens at the same instant on each succeeding day; but, that he appeared to traverse the twelve signs of the zodiac, and to make the circuit of the whole heavens in the course of a year. But this apparent motion may result either from the real motion of the sun, or from that of the earth in an opposite direction; and both reason and analogy combine in favour of the latter conclusion.

That the appearances would be precisely the same in each case, will be obvious by an inspection of *fig. 3*, where S represents the sun, and E the earth. When the earth is at E the sun will evidently appear, to an inhabitant on the terrestrial surface, to be at S'; and while the earth moves from E to A, the sun will appear to move through the opposite part of the orbit S'P, but in the contrary direction, or from S' to P. Therefore, if an observer were placed at the surface of the sun, he would perceive that the earth revolved round that luminary in the space of a year, in the very same manner as the sun appears to us to revolve about the earth in that period. This annual motion is not performed in a circle, but in an ellipse, having the sun in one of its foci; for the sun's apparent diameter undergoes periodical variations, which prove that his distance from the earth also varies. The following reasons fully establish the truth of the earth's annual motion.

All the celestial motions become incomparably more simple, and free from those looped contortions which must inevitably take place if the earth were at rest, and the sun revolved about it. This would also be contrary to all the known laws of motion.—The circumstance of the sun being the source of light and heat to all the other bodies of the system, and that of his immense magnitude in comparison with the earth, both corroborate the same conclusion.—It is also one of the demonstrated laws of nature, that when several bodies revolve about a common centre, the squares of their periodical times are proportional to the cubes of their mean distances from that centre; but, if both the sun and moon revolve round the earth, this analogy does not hold good with respect to them.—The revolution of the sun round the earth is likewise inconsistent with the discoveries that have been made relative to the forces that regulate the planetary motions. All these proofs combine to establish the annual revolution of the earth; and to show that this motion of the terraqueous globe is in perfect unison with that harmony which pervades the whole system of the universe.

5. During this annual revolution of the globe, its axis always maintains its parallelism, constantly making the same angle with any given line in the plane of the terrestrial orbit, while it is inclined to that plane in an angle of about sixty-six degrees and a half. By combining the effects of the diurnal and annual revolutions of the earth, with the phenomena resulting from the position of its axis, the *variation in the length of day and night*, and the *regular succession of the seasons*, are satisfactorily explained. As the rotation of the earth on its axis gives rise to a constant succession of day and night on every part of its surface, so the inclination of this axis to the plane of the ecliptic, joined to its parallelism, occasions the variation in the duration of light and darkness, and produces the vicissitudes of the seasons. For, as the rays of light, on account of the great distance of the sun, may be considered as parallel to each other, only that half of the globe which is turned towards that luminary can be enlightened at the same time. The opposite half, therefore, remains in darkness. If, then, we conceive the centres of the earth and sun to be joined by a right line, and a plane to be drawn through the centre of the earth, perpendicular to this line, its intersection with the surface will form the boundary of light and darkness. This is called the *circle of illumination*, and sometimes *the terminator*.

If the axis of the earth were perpendicular to the plane of its orbit, the terminator would always pass through the poles, and divide each of the parallels, as well as the equator, into two equal parts. Then, as the uniform rotation of the earth on its axis causes equal parts of these parallels to be presented to the sun in equal times, the days and nights would constantly be of the same duration, at all times of the year, as well as at all places on the globe. But, as this axis is *inclined* to the plane of that orbit, these parallels are each divided by the circle of illumination into two unequal parts; and the lengths of day and night, of course, follow the same ratio. Now, as the centre of the earth always coincides with the plane of its orbit, the equator is constantly divided into two equal portions, and the days and nights there are always of the same length. But, as each pole is sometimes in the enlightened, and sometimes in the dark hemisphere, the inequality in the division of the parallels necessarily increases with the latitude; and, as the inclination of the axis to a line perpendicular to the plane of the earth's orbit is about twenty-three degrees and a half, all the parallels which do not exceed this distance from the poles, will be sometimes wholly enlightened, and at others completely obscured. At these times, all places within their compass have either constant day, or uninterrupted night, for several diurnal revolutions of the globe. Hence, as the annual revolution of the earth causes each pole to be alternately brought into the light and dark hemisphere, by being successively presented to the sun, the regular vicissitudes of the seasons is the necessary consequence.

To illustrate these principles, let ABCD (*fig. 4.*) be the earth's orbit, S the sun, and PP'EQ the earth in its four positions of Spring, Summer, Autumn, and Winter. The axis PP' is represented as preserving its parallel position in each of these situations. This causes the north pole P to be turned towards the sun at A; but from it at C. In the former position the arctic regions are in the enlightened part of the globe, but in the latter, they are wholly in the dark hemisphere. The contrary takes place with respect to the regions surrounding the south pole. But, in the two intermediate situations, B and D, a line supposed to be drawn from the centre of the sun to that of the earth, would be perpendicular to the axis PP', and, consequently, the poles P and P' will then be in the circle of illumination. In all the intermediate points of the orbit this circle will be more or less distant from the poles, according to the position of the earth.—This will perhaps be rendered more familiar by a few remarks relative to the phenomena exhibited at each of the four positions of the earth, as represented in the figure above referred to; and the gradations which succeed in the transition from one position to another. These have been so well delineated in Professor *Bonnycastle's* excellent and popular work on astronomy, that we shall not hesitate to adopt his explanation.

“Suppose now, the earth to be in the situation which is represented by the month of March; then, because a right line joining the centres of the sun and earth will cut the surface of the earth in the equator, the terminator will pass through the two poles, and the days and nights will consequently be equal all over the globe. But when the earth, by its annual motion, is carried further in its orbit towards A, the north pole P, of the axis, still continuing to observe the same parallel situation, will advance into the enlightened hemisphere, and, in the month of June, will be about twenty-three degrees and a half distant from the terminator, the south pole being at the same distance in the dark hemisphere. In the month of June, therefore, the northern parts of the earth will enjoy long days and summer, while the southern parts will have short days and winter.

“During the interval between the time of equal days and nights, in March, which is called the Vernal Equinox, and the time when the day is the longest in June, which is called the Summer Solstice, the north pole will have described a quarter of a circle in the enlightened hemisphere,

and will then be at its greatest distance from the boundary of light and darkness. And whilst the earth moves forward in its orbit towards B, the days will gradually shorten, till it arrives at the position denoted by the month of September, when, as the north pole has now described another quarter of a circle, the terminator will again pass through the two poles, and the days and nights will be equal as before.

“This last situation of the earth is called the Autumnal Equinox, and the season is now a medium between Summer and Winter, and as the earth proceeds forward in her orbit towards C, the days will shorten till December, when the north pole will be just as far in the dark hemisphere as it was in the enlightened one in June, at which time it is called the Winter Solstice. From the Winter Solstice to the Vernal Equinox the days will gradually lengthen, as the north pole approaches the terminator; and at the instant when it has again attained that situation, the natural year, which consists of three hundred and sixty-five days, five hours, and about forty-eight minutes, is exactly completed.

“By the same explication, it is easy to perceive, that the inhabitants of the southern hemisphere must have the same vicissitudes with those in the northern, but in a contrary order, it being winter in one hemisphere, while it is summer in the other.” LETTER XI.

6. As the sun is much more elevated at noon in summer, than in winter, he appears to approach each pole alternately. But, as he is never either vertical to us, or wholly below the horizon during a complete diurnal revolution, there are evidently limits to his variation in meridian altitude. Since the ecliptic, or apparent path which he describes in the heavens intersects the equator, he is sometimes on the north, and sometimes on the south side of that circle. Consequently, he is vertical at noon, at least once a year, to certain parts of the earth's surface on each side of the equator. The breadth of this region is determined by the angle which the ecliptic makes with the equator, which astronomers have found to be nearly $23^{\circ} 28'$. Hence, the greatest extent to which the sun can ever be vertical, is double this quantity, or a space equal to $46^{\circ} 56'$ in breadth.

In *figs. 5 and 6*, let *SC*, *ST'*, *Sc*, and *Sc'*, represent solar rays falling on the earth at these points. Also let *EQ* be the equator, *TC* and *T'C'* the tropical circles, by which the torrid zone is bounded on the north and south; and *ac* and *a'd'* the polar circles. Then *TC* will be the circle to which the sun is vertical at the summer solstice, and *T'C'* that to which he is vertical at the winter solstice. These circles are therefore each parallel to the equator, and $23^{\circ} 28'$ distant from it. The former is the *Tropic of Cancer*, and the latter the *Tropic of Capricorn*. The circles *ac* and *a'd'* embrace the parts surrounding the poles, one of which is wholly enlightened, and the other wholly obscured, when the sun is in the *Tropic of Cancer*. The contrary is the case when he is in the *Tropic of Capricorn*. Each of these circles is, therefore, $23^{\circ} 28'$ from the respective poles *P* and *P'*. These are called the *Polar Circles*. The former is the *Arctic*, and the latter the *Antarctic* circle. Hence, these four circles divide the surface of the earth into five Zones. The *Torrid Zone* is comprised between the two tropics. The two *Temperate Zones* are bounded by the tropics and the polar circles; and the *Frigid* or *Frozen Zones* are included between these circles and the poles. Each region derives its name from its comparative temperature.

The ancients also divided the earth's surface into smaller spaces, denominated *Climates*, which were bounded by the parallels of latitude corresponding to a difference of half an hour in the length of the longest day. As these climates commenced at the equator, where the day is constantly 12 hours long, the first ended where it is 12 hours and a half long, the second where it is 13 hours, and so on to the polar circle. Within that circle, however, they increased by *months*, instead of half hours. *Climates*, in this sense of the term, are now little

attended to by geographers, but, as they are sometimes useful in perusing ancient authors, we shall refer to CHAPTER V. of this Introduction, for a more copious explanation.

7. The extent of the Zones and Climates depends upon the inclination of the ecliptic to the equator, or the angle formed by the planes of these circles, which is determined by observing the meridian altitudes of the sun, at the summer and winter solstices. For, since the two points of the ecliptic, occupied by the sun at those instants, are the most distant from the celestial equator, and these distances are equal to each other, the difference of the two observed altitudes will evidently give double the angle made by the intersection of the equator and the ecliptic. By such observations, therefore, that angle becomes known. This is illustrated by the following example.

The meridian altitudes of the sun, when in the solstices, as taken at the Royal Observatory, are,

	°	'	"
At the Summer Solstice.....	61	59	18
At the Winter Solstice.....	15	3	22
Difference.....	46	55	56
Required angle = $\frac{1}{2}$ Difference	23°	27'	58"

This is, therefore, the measure of the arc by which the sun deviates from the celestial equator towards each pole; or of the angle made by the intersection of the planes of these circles, and which is denominated the **OBLIQUITY OF THE ECLIPTIC**. An investigation of the effects produced by the causes which regulate the planetary motions, with a comparison of ancient and modern observations, lead to the conclusion, that this angle is subject to a diminution of about 50' in a century. This decrease will continue till the angle arrives at a certain limit, beyond which it cannot pass; and where it will begin to increase again, at the same rate as it diminished, in approaching this limit, and thus continue to augment, till it attain its maximum.

As the arc which measures the obliquity of the ecliptic is also equal to half the breadth of the torrid zone, the whole of that zone extends through nearly 46° 56'. The breadth of each frigid zone is also 23° 28', and by adding this to half the breadth of the torrid zone, and subtracting the sum from 90°, we have 43° 4', for the breadth of each temperate zone. From these data, and the radius of the earth, the superficial content of each zone may easily be calculated, and the ratio of their surfaces ascertained. This has been found to be as the three numbers 83, 519, and 796, or very nearly as 1, 6 $\frac{1}{2}$ and 9 $\frac{1}{2}$. If the whole surface of the earth be represented by unity, each of these parts will be expressed by the following numbers: viz.

The two Frigid Zones.....	0.083
The Temperate Zones.....	0.519
The Torrid Zone.....	0.398

8. We have already observed, that these zones derive their names from their comparative TEMPERATURES, which, in a great measure, result from astronomical causes. The two principal of these causes are the obliquity of the solar rays with respect to the terrestrial surface upon which they fall, and the space they pass through the atmosphere before they reach that surface. Both these depend upon the elevation of the sun. To illustrate this, let A, b, B. (fig. 7.) represent half the globe, and the dotted semicircle NP the upper limit of the atmosphere; also Sa and Sb the extreme rays of a pencil of light falling upon the earth at

a and *b*. Also, let *S'a* and *S'c* be the extreme rays of an equal pencil, when the sun has a less elevation, as at the winter solstice. Then it is evident that the rays reach the surface of the earth in a much more attenuated state in the one case than in the other. Now, as the number of rays in the two pencils is the same, their density will be inversely as the areas or the elliptic spaces they cover. These are as the transverse axes *ab*, *ac*, since the two conjugate axes are equal. The pencil *S'a* has also a much greater space to pass through the terrestrial atmosphere, than *Sa*, by which its influence is still further weakened. Both these causes, therefore, unite in diminishing the solar influence, as the altitude of that luminary decreases; and as this altitude is greatest at the equator, where the sun is vertical, and decreases as the latitude increases, the propriety of the appellations bestowed on the different zones is evident.—It should be remarked, however, that as the lengths of the days augment with the latitude, when both the sun and the place are on the same side of the equator, and diminish with it when they are on contrary sides of that circle, there is a much greater difference between summer and winter in high latitudes than in low ones.

9. A knowledge of the exact POSITIONS OF PLACES on the earth's surface is of great importance to society in general; but to the mariner it is of still more immediate consequence. It is by this means he is able to ascertain the precise place of his vessel, when exposed to the fury of the winds and waves, on the surface of an immense ocean, and a uniform expanse of water and sky alone present themselves to his view. The compass shows him in what direction he is steering, but it is only by determining the exact position of his vessel at any given instant, that he can find the distance he has sailed, the bearing of the port he has left, or the course he must steer to reach the intended haven. This he accomplishes by ascertaining his distance from the equator, as well as from some particular meridian. The former of these is LATITUDE, and the latter LONGITUDE. To determine the position of any place, therefore, two distinct computations are requisite, and consequently two fixed limits, from which to commence the reckonings, are also necessary. As all points of the equator are equally distant from each pole, it divides the earth into two hemispheres; and being intersected at right angles by the meridians, it forms the proper commencement of latitude, which is, therefore, reckoned both ways from that circle to the poles. Hence, latitude is of two kinds, *north* and *south*, as the place is situated in the northern or in the southern hemisphere. It is also denominated *high* or *low* latitude, as the place is nearer the poles or the equator. At the equator, therefore, there is no latitude, but at the poles it is the greatest possible, or 90 degrees.

As the equator is the general circle from which astronomers, geographers, and navigators commence their reckoning, they all agree in their accounts of latitude; at the same time that they differ from each other with respect to those of longitude. This difference arises from there being only one equator, but numerous meridians, which have nothing in their nature to distinguish them from each other. The choice of one, from which to commence the reckoning of longitude, is, therefore, an arbitrary assumption. In consequence of this, the scientific men of each nation, generally prefer the meridian of its metropolis, or that of its principal observatory. Hence, the *first* meridian of Great Britain, is that of the Royal Observatory at Greenwich. The French adopt that of their Observatory at Paris; the Germans that of Vienna, &c. Longitude is reckoned eastward and westward from the first meridian, and continued half round the globe, or till the reckonings meet at the opposite meridian, or 180 degrees from its commencement. This is, therefore, the greatest longitude that a place can have. As the meridians all intersect each other in the poles, and each divides the surface of the globe into two hemispheres, longitude is either *east* or *west*, according to the situation of the place, or as the reckoning proceeds eastward or westward from the first meridian.

10. Early geographers, as stated in the preceding chapter, fixed the positions of places on the earth's surface by means of itinerary measures; and the errors to which these led have already been noticed. To determine these positions with accuracy, however, recourse must be had to the heavens, as the bright luminaries of the invisible firmament afford the only certain means for the attainment of this object. Astronomers of subsequent ages have, therefore, formed rules, on the most scientific and correct principles, for finding latitude and longitude. The most familiar of which shall now be explained.

The altitudes of the heavenly bodies, and their respective distances from each other, are the only data adapted to the solution of these problems, that can be directly obtained by observation. Various circumstances, however, cause the apparent places of these bodies to differ from the true ones, and, therefore, previous to employing the observed altitudes or distances in the calculations of the required quantities, they must be subjected to several corrections. These corrections are for the *Depression* of the *Horizon*, the *Semidiameter* of the sun and moon, and the effects of *Refraction* and *Parallax*. Observed altitudes of the sun and moon require correcting for all these quantities, but as the stars have neither diameter nor parallax, observations made on them are only to be corrected for the depression of the horizon and refraction.

The following are the principal causes which render these corrections necessary, with the method of applying them. See also CHAPTER V. of this INTRODUCTION.

11. DEPRESSION OF THE HORIZON.—The observed altitudes of the heavenly bodies are arcs of vertical circles, comprised between these bodies and the visible horizon. These would be the true altitudes, independently of other corrections, if the visual rays from the apparent circle which terminates the view, coincided with the horizontal plane, but, as these rays are inclined below that plane, the angle they form with it, is denominated the *Depression of the Horizon*. This angle evidently increases with the height of the eye. The angular distance between the zenith and the horizon of the observer, would be equal to 90 degrees, if the surface of the earth were a plane, and the eye of the observer not elevated above it. Hence, if this surface coincided with the line A C (*fig. 8.*) the eye of the observer being at A, a point in that line, and Z in the direction of the zenith, then the angle Z A C would be a right angle, or 90 degrees. But as the terrestrial surface is a curve, as represented in the figure, any point in P on this surface will necessarily be below the horizontal line A C; and consequently if A P be joined, the angle Z A P will be greater than 90 degrees. Now, as the eye of the observer is always more or less elevated above the point A, suppose it to be at B, where the tangent from P meets the vertical line A Z; then as the angle Z B P is equal to the sum of the two angles Z A P and A P B, and Z A P exceeds 90 degrees, the angle Z B P is always greater than a right angle. Draw B D parallel to A C, then the angle Z B D will be a right angle, and the angle P B D will be the depression of the horizon, at the point B, or the quantity which the angular distance between the zenith and the horizon of the observer, exceeds 90 degrees.

For the more ready application of this depression, its quantity is calculated for different altitudes, and arranged in Tables, so as to be obtained by inspection. See the article DEPRESSION, CHAP. V. The quantity thus found, is always to be subtracted from the observed altitude, as in the following example.—Suppose it were required to find the apparent altitude of a star, its observed altitude being 36° 24' 45", and the height of the eye 20 feet above the horizon.

Observed altitude of the star	36°	24'	45
Depression of the horizon, (See the Table above referred to)	0°	4'	23"
Apparent altitude required	36°	20'	22"

12. SEMI-DIAMETERS OF THE SUN AND MOON.—The altitudes of the upper or lower limbs of the Sun and Moon only, can be directly obtained by observation; and as the altitudes of their centres are required for the subsequent calculations, their semidiameters must either be added to, or subtracted from, the observed altitudes, to obtain those of their centres. These apparent semidiameters, however, are not always the same, but may be easily calculated for any required time. The sun's semidiameter, which is subject to little variation, is given in the *Nautical Almanac* for every 6th day; and the moon's for both noon and midnight of every day. When the lower limb is observed, the semidiameter must be added to the altitude; but if the upper limb was the subject of observation, it must be subtracted from that altitude. The diameter of the moon is also subject to a small augmentation, in consequence of an increase of altitude; but as this only amounts to a few seconds, it may be omitted, except when great accuracy is required. The following example will illustrate these precepts.—Suppose the altitude of the sun's lower limb was, on the 9th of May, 1818, found to be $42^{\circ} 34'$, what was the altitude of his centre at that instant?

Sun's semidiameter on the 7th (See Nautical Almanac)	15'	52"
Proportional diminution for two days	0	1
Semidiameter on the 9th of May	15	51
Observed altitude of lower limb	$42^{\circ} 34'$	0
Altitude of the centre at the required time	$42^{\circ} 49'$	$51''$

13. EFFECTS OF REFRACTION.—When the rays of light pass obliquely from one medium into another of a different density, they are bent out of their rectilinear course, and this effect is denominated REFRACTION. The terrestrial atmosphere, being composed of an indefinite number of strata, increasing in density as they approach the earth, the rays of light which traverse them, pass successively through different mediums, and consequently ought to be inflected towards the earth, in proportion as the density increases. Now, as the density of the atmosphere at different heights above the earth only changes by insensible degrees, a ray of light in passing through it, does not describe a series of straight lines, but a curve, concave towards the earth, as represented in *fig. 9*.

When the ray arrives at the earth's surface, at O, an observer situated at this point will receive it according to its last direction OS'; and as all bodies appear in the direction in which the visual ray enters the eye, the heavenly body S will, in consequence, be seen at S'. If in this case the altitude of the body were observed, the angle S'OH would be taken, instead of SOH; and consequently the difference of these two angles is SOS', which is the *Astronomical Refraction*. Its effect, therefore, is to cause the heavenly bodies to appear more elevated than they really are. Refraction, however, is only sensible in a vertical direction, and is not the same at all altitudes. For, when the rays of light fall perpendicularly on the refracting medium, they do not suffer any refraction; and as the deflecting power augments with the obliquity of the incident ray, refraction gradually increases from the zenith, where it is nothing to the horizon, where it is the greatest; but where it seldom exceeds $36'$, and is not often less than $30'$; the mean horizontal refraction being about $33'$. As this quantity depends upon the state of the atmosphere, it is not always the same at equal altitudes. Astronomers have, therefore, calculated it for a mean state of the air, and arranged the results in Tables; which are subject to a slight correction, when greater accuracy is required.

As the general effect of refraction is to cause all the heavenly bodies to appear higher than they really are, it accelerates their rising, and retards their setting, and thus increases the length of the day. It also causes the apparent distances of these bodies from each other, to be greater than their real distances. Hence, refraction must be *subtracted* from the corresponding

altitudes of the heavenly bodies, as found by observation. Thus, suppose the apparent altitude of a star, found by observation to be $15^{\circ} 10'$; then the corresponding refraction is $3' 26''$; and therefore $15^{\circ} 10' - 3' 26'' = 15^{\circ} 6' 34''$, the corrected altitude required.

14. EFFECTS OF PARALLAX.—In the preceding explanations the earth has been regarded as a physical point with respect to the distances of the heavenly bodies, and the axis of revolution, about which these bodies perform their apparent diurnal motions, as passing through the eye of the observer, which is considered as the centre of the concave sphere. This, however, is correct only in reference to the stars, whose distances are so indefinitely great in comparison with the terrestrial radius, that all the visual rays from the same star to different parts of the earth's surface may be considered as parallel to each other, without introducing any sensible error into the result of the calculations founded upon this assumption. This principle cannot be applied to the bodies which constitute the solar system, on account of their greater proximity to the earth. Hence, when we wish to ascertain the correct situations of these bodies, it is necessary to reduce the quantities found by observation at the earth's surface to what they would have been if taken at the centre. To avoid this difference in the apparent situations of the same celestial body when seen from different places, astronomers suppose the earth to be a sphere and refer all their observations to the centre; regarding that as the true place of the heavenly body in which it would appear, if seen from this point. They also call the situation in which a body is seen, when observed at any point of the earth's surface, not in a right line between it and the centre, its *apparent* place, and that in which it would appear if seen from the centre, its *real* place. The angle at the body subtended by the terrestrial radius, joining the point of observation and the centre constitutes the PARALLAX of that body.

Let C (fig. 10.) be the centre of the earth, O the place of an observer, and S that of the sun, then the parallactic angle is OSC, subtended by the radius OC; and the angle SOH is that which measures the altitude of S. To an observer at O the body would evidently appear to be at *s*, but to another, at C, it would as clearly be seen at *s'*. Now, the former would be its apparent, the latter, its real place; and, therefore, the effect of parallax is to diminish the apparent height of the object; and must, consequently, be *added* to the observed altitude, or subtracted from the zenith distance, to obtain the true place of the body. The effect of parallax, like that of refraction, is wholly in a *vertical* direction; and since it is measured by the angle OSC, it is not always the same quantity, but varies with the altitude of the body S; for, this angle is evidently the greatest when the body is in the horizon, where the triangle OSC becomes nearly isosceles, as OSC. From this point it diminishes, as the altitude increases, until the body arrives at Z, when the lines CS and OS both coincide with OZ; then the angle OSC vanishes, and the parallax becomes nothing. The mean horizontal parallax of the sun is about $8''.78$; that of the moon varies from about $54'$ to $62'$. On account of this variation the parallax of the moon is inserted in the *Nautical Almanac* for noon and midnight of every day; from which it is easily found, by proportion, for any intermediate time.

15. DECLINATION.—Another element constantly employed in finding the positions of places on the earth's surface is the distance of the heavenly bodies from the celestial equator, as measured by an arc of the meridian passing through the body. This is the DECLINATION of the body; and is, consequently, either north or south, as the body is situated in the northern or southern hemisphere. This element is also inserted in the *Nautical Almanac* for certain times; from which it may be easily reduced, by proportion, to any intermediate moment. By reflecting on these elementary quantities, and the circumstances connected with them, the reader will be prepared to comprehend some of the most simple and scientific methods of finding latitude and longitude.

16. The latitude of a place may be found by various methods, but the most simple is by a meridian altitude of the sun. This may be obtained by direct observation, at the moment that luminary passes the meridian of the place for which the latitude is required. It may also be found from several altitudes taken near the meridian, and a knowledge of the time corresponding to each. At the terrestrial equator, where the latitude is nothing, the celestial equator passes through the zenith, and the poles of the world are in the horizon. But if we suppose ourselves to advance along any meridian into either hemisphere, the pole of that hemisphere appears to ascend above the horizon, and describe an arc of a vertical circle, equal to the arc of the meridian passed over. Now, as the arc of the meridian measures the latitude of the place arrived at, it follows that this is always equal to the elevation of the pole at that place. Hence, the inclination of the celestial equator to the horizon is equal to the complement of the latitude. The object of taking the meridional altitude of the sun is, therefore, to ascertain this inclination; and, consequently, the latitude itself.

These observations may be familiarly illustrated in the following manner. Let PEP, (fig. 11.) be a terrestrial meridian, and EQ the equator. When the observer is at E, the plane of the equator, supposed to be produced to the heavens, will pass through the zenith Z, and the poles will evidently be situated in the horizon HH. But on proceeding from E to O, the horizon gradually recedes from HH to H'H', and the pole P appears to ascend through an equal arc, but in a contrary direction. Hence, as the sum of the two angles ECO and OCP is equal to a right angle, and the sum of the two OCP and PCH', also equal a right angle, if the common angle OCP be taken from each of these sums, there will remain the angle ECO equal to the angle PCH'; that is, the altitude of the pole equal to the latitude of the place of observation. Again, the angle ECH', which is the complement of ECO, is evidently the inclination of the equator to the horizon of the observer at O; and consequently the altitude of the equator at any place, is equal to the complement of the latitude of that place. All that is necessary, therefore, to find the latitude, is to ascertain the height of the equator, and subtract it from 90 degrees. The easiest method of accomplishing this, is to observe the meridian altitude of a heavenly body, and reduce it to the true altitude by the corrections already explained, and then either by adding the declination to this altitude, or subtracting it from it, as circumstances require, the height of the equator will be obtained. That is, if the sun pass the meridian, south of the observer's zenith, add the declination when it is south, and subtract it when north; but if he pass the meridian on the north of that zenith, subtract his declination when south, and add it when north.—The following example will show the application of both these precepts.

Suppose the altitude of the sun's lower limb, when he passed the meridian south of the observer, on the 9th of May, 1818, was found to be $46^{\circ} 32'$; what was the latitude of the place.

Observed altitude of Sun's lower limb	46°	32'	0"
Sun's semidiameter, 9th May, <i>add</i>	0	15	51
Observed altitude of Sun's centre	46	47	51
Refraction, to be <i>subtracted</i>	0	0	54
	46	46	57
Parallax corresponding to this altitude, <i>add</i>	0	0	6
True altitude of the Sun's centre	46	47	3
Declination north, 9th May, <i>subtract</i>	17	16	18
Height of Equator	29	30	45
Complement LATITUDE NORTH	60°	29'	15"

The latitude may also be found still more readily from the observed altitude of a star, the declination of which is known, as the corrections for semidiameter and parallax are then unnecessary. The meridional altitude of the moon will also afford the same result; but in this case the corrections are more tedious, and, from the irregularity in her motion, much greater attention is requisite to ensure equal accuracy.

17. Another easy method of obtaining the latitude of a place, is by observing the greatest and least altitudes of a circumpolar star; half the sum of which is the height of the pole, or, as shown above, the latitude of the place. Let PP (*fig. 12.*) be the axis of the earth, HH the horizon, *a* and *b* the greatest and least heights of a circumpolar star; then, as this star describes a circle about P as a centre, the arcs Pa and Pb are equal to each other; Ha and Hb are its two altitudes in these positions: Hence, $HP = \frac{1}{2} (Ha + Hb)$. Now, when Ha and Hb are found by observation, the heights of the pole HP, and, consequently, the latitude of the place is known. If half the difference of the two altitudes be added to the less, or subtracted from the greater altitude, the result will also be the same; for $Hb + \frac{1}{2} (Ha - Hb)$ or $Ha - \frac{1}{2} (Ha - Hb)$ is evidently equal to HP.

Example.—Suppose the greatest altitude of a circumpolar star was observed to be $66^{\circ} 48' 40''$, and its least, $36^{\circ} 18' 20''$; required the latitude of the place of observation.

Greatest observed altitude.....	66°	48'	40"
Refraction to be subtracted	0	0	24
True altitude of the Star	66	48	16
Least observed altitude.....	36	18	20
Refraction answering to this altitude	0	1	18
True altitude of the Star	36	17	2
Greatest altitude of the same Star	66	48	16
Sum of their altitudes	103	5	18
LATITUDE of the place	half sum	51°	32' 39"

It is also evident that if half the difference of the two altitudes, which is $15^{\circ} 15' 37''$, be added to the less altitude $36^{\circ} 17' 2''$, or subtracted from the greater, $66^{\circ} 48' 16''$, their sum or difference will be $51^{\circ} 32' 39''$, which is the same as before.

There are various other methods of ascertaining the latitude of a place, but these already explained are the most simple. A mere notice of one or two others will, therefore, be sufficient. The meridional altitude of the sun, and consequently the latitude of the place of observation, may be found from several altitudes of that luminary taken near the meridian. For this purpose, however, they should all be taken within seven or eight minutes before and after the sun's passage over the meridian. The greatest possible number of them should also be taken during this time, and the interval between each should likewise be accurately marked. Then, rules have been investigated for obtaining the mean altitude from such a series of observations, and for reducing that to the meridian altitude; from which the latitude is found as before.---The same result may also be obtained from two altitudes of the sun, taken out of the meridian, and the interval of time between the observations; but the calculation is very complicated.

18. From the preceding explanations it is obvious that the latitude of a place is readily ascertained; but the problem of FINDING THE LONGITUDE is of more difficult solution. Some easy methods have been devised for this purpose, which give the result with sufficient accuracy on land, but at sea, where correctness is most essential, they are only approximations. This

problem, however, is so intimately interwoven with the prosperity of a commercial nation, that great rewards have been offered for its easy and correct solution.

The revolution of the earth on its axis furnishes one of the most ready methods of determining longitude, or rather the difference between the longitudes of any two places on its surface. This difference presents an accurate correspondence with that of the right ascension of two circles of declination, that are situated in the same planes with the terrestrial meridians. The period between two consecutive passages of the sun over the same meridian is 24 hours. This period, therefore, corresponds to 360° of longitude, or of right ascension. Now, when the sun is on the first meridian, all places situated on that meridian reckon noon at the same instant of absolute time; but those on the opposite meridian reckon midnight, or 12 hours less; 180° of longitude, therefore, answers to 12 hours of time. The great circle which passes through the poles, and has its plane perpendicular to that of the first meridian, forms two other meridians, one of which is 90° east, and the other 90° west of the first. All places situated on that to the west reckon six hours less than those on the first meridian. The astronomical day will not, therefore, have commenced at that time with them, and it will only be the 18th hour of the preceding day. Those places on the meridian 90° east of the first, reckon six hours more than those on the first meridian, and consequently have the sixth hour of the astronomical day, while it is only commencing at that meridian; hence, 90° of longitude correspond to six hours of time. These 90° may also be divided into six equal parts of 15° ; and each of these portions will then answer to one hour of time. One degree, therefore, is equal to one-fifteenth of an hour, or four minutes. By thus continuing the subdivisions it is evident that $15'$ of a degree are equivalent to one minute of time; and $15''$ of a degree to one second of time. Thus the difference of longitude may be reckoned in time, at the rate of 15° to an hour.

19. One method of finding longitude, therefore, consists in ascertaining the time at any given place, and that which is reckoned at the same instant at the first meridian, or any other of which the longitude is known. Then, by converting this time into degrees and minutes, it will give the difference of longitude between the two meridians; and, hence, if one of these be the first meridian, this difference will be the longitude required: but if any other meridian than the first be used as the term of comparison, the longitude of the given place will be the sum or difference of these two longitudes, according to the particular circumstances of the case.

One of the most obvious ways of ascertaining the longitude is therefore by means of a chronometer; which being regulated for true time at any given meridian would, if it did not vary, always indicate the time at that meridian; and, consequently, as places under different meridians reckon different hours at the same moment of absolute time, all that is necessary is to ascertain the true time at the place where the longitude is required. The difference of true time at that meridian, and the one for which the chronometer was regulated, would thus be determined; and the difference of longitude between these two meridians would, in consequence, be known.

It cannot, however, be expected that a chronometer should be absolutely free from all variation; nor is this essential to a practical solution of the problem. If only its rate, or the quantity of this variation in a given time, be uniform and known, the effects of variation may be readily corrected, and the true time equally found; for by adding the amount of this rate for any given period to the time indicated by the chronometer at the end of that period, if it be too slow, or subtracting it, if too fast, we shall still have the true time at the place for which it was regulated. This rate may also be ascertained from time to

time by astronomical observations. Thus, if it were found that the chronometer had lost at the rate of two and a half seconds a day, and it were required to find the true time when it was indicated 9h. 15m. 36s. twelve days after it had been regulated; we should have 12 times 2 s. or 30s. which must be added to the time, and the sum would be 9h. 16m. 6s. If, on the contrary, the watch had gained at the same rate, this quantity must have been subtracted: and the time would then have been 9h. 15m. 6s.

20. The easiest method of finding the time by astronomical observations, is to observe the passage of the sun over the meridian, for that is the moment of apparent noon, and by correcting this for the equation of time answering to that hour, the true time will be immediately found. This time, being compared with that given by the chronometer, corrected if necessary, gives the required difference. But as the longitude is to be found in numerous instances, in which the sun's passage of the meridian cannot be conveniently observed, other means have been employed for accomplishing the same purpose. One of the most convenient of these is, an observation of the sun's altitude, taken at least an hour and a half before he reaches the meridian, or the same time after he has passed it; from which the time may be calculated, and then used as if found by any other means. See *Horary Angle*, CHAPTER V.

21. Eclipses of the Sun, Moon, and Jupiter's satellites, with the occultations of the fixed stars, and the transits of Venus, likewise afford the means of determining Longitude; but either the protracted periods of their recurrence, the difficulty of observing them, or some other unavoidable circumstances, preclude them from being universally applicable.

22. The phenomena of the heavens, however, present another method of ascertaining Longitude, which is more generally practicable than any of the preceding. Lunar eclipses seldom happen, and Jupiter's Satellites are not always visible; but the Moon is almost continually presenting herself to observation. As she rises about three quarters of an hour later every day than on the preceding, her distance from the sun, or certain stars, is subject to a constant and rapid variation. In some cases, this variation exceeds 13° in 24 hours. This is a circumstance highly favourable to the solution of the problem of finding longitude; for, if the distance of the moon from the sun, or a fixed star, be observed, the exact time of the observation known, and the moment when she has the same distance at the first meridian be computed, the difference of these times will give the longitude of the place of observation. To facilitate these calculations, the distances of the moon from the sun and certain stars, near her path, are inserted in the *Nautical Almanac*, for every three hours, as they would be found if observed at the Royal Observatory. This method of finding the longitude, by *Lunar Distances*, is the best that has yet been discovered; but though much has been done to facilitate the calculations it requires, they are not readily performed by persons unaccustomed to such computations. We therefore refer to works written expressly on the subject, for the particular operations.

23. Having thus determined any particular meridian and parallel of latitude, the situation of a place on the surface of the globe is found by the intersection of these two circles. When the positions of any two places are known, their relative DISTANCE and BEARING from each other may likewise be ascertained. The difference of latitude of any two places is found by subtracting them from each other when the latitudes are both of the same name, but by adding them together when they are of different denominations. The same rule also applies to longitude. This will be rendered obvious by an inspection of *fig. 13*, where EQ represents the equator, and PIP the first meridian, *a* and *b* two places whose difference of latitude is required. Then *aq* and *bq* are evidently these latitudes, and consequently $bq - aq = ab$, the difference required. But, if *a* and *a'* were the two places, on contrary sides of the equator, we should have $aq + a'q = aa'$, for the required difference. In this illustration of the general principle, it

should be observed that both the places are supposed to be upon the same meridian; but as only the arc comprised between each place and the equator is used, the method is the same when they are situated on different meridians. To apply the general precept to a particular example; let it be required to find the difference of latitude between London and St. Petersburg.

The latitude of St. Petersburg is $59^{\circ} 56' 23''$ North

The latitude of London is $51^{\circ} 30' 49''$ North

The difference of Latitude required $8^{\circ} 25' 34''$

Again, if it were required to find the difference of latitude between London and Cape Town, near the southern extremity of Africa, we should have

The latitude of London $51^{\circ} 30' 49''$ North

The latitude of Cape Town $33^{\circ} 55' 15''$ South

The difference required $85^{\circ} 26' 4''$

With a view of exemplifying the same precept, as applied to *longitude*, it must be observed that the longitude of *a* is the arc of the equator Iq , and that of *c* is the arc Iq' , and consequently the difference of these longitudes is $Iq' - Iq = qq'$. But if the place be situated on the opposite side of the first meridian PIP, as at *C'*; then the difference of longitude between *a* and *C'* will evidently be $Iq + Iq'' = qq''$. To apply this, let it be required to find the difference of longitude between Paris and Constantinople; then we shall have

The longitude of Constantinople $28^{\circ} 55' 15''$ East

The longitude of Paris $2^{\circ} 20' 15''$ East.

The difference required $26^{\circ} 35' 0''$

Again, suppose it were required to find the difference of longitude between Calcutta, and Port Royal in Jamaica.—In this case we have,

The longitude of Calcutta $88^{\circ} 29' 45''$ East.

The longitude of Port Royal $76^{\circ} 50' 30''$ West.

The difference required is $165^{\circ} 20' 15''$

In these examples, all the longitudes are supposed to be reckoned from the meridian of the Royal Observatory, at Greenwich. In other countries, however, the reckoning commences at different meridians, and a slight computation is requisite for converting the longitude as reckoned in one country, to that as stated in another. This is accomplished by simply *adding* the difference of the first meridians to the given longitude when both quantities are of the same name, as compared with the meridian to which it is to be reduced; but *subtracting* the less number from the greater when they are of different names; and the result will be the longitude required. Thus, if the place were situated $6^{\circ} 42' 36''$ east of the first meridian of Paris, and it was required to reduce it to the reckoning used by English Geographers, the difference of longitude between Greenwich and Paris Observatories, which is $2^{\circ} 20' 15''$, must be added (Paris also being east of Greenwich) to the above number, and the place will then be $9^{\circ} 2' 51''$, the longitude according to our reckoning. If, on the contrary, the longitude had been west from Paris, then, as Paris is east from Greenwich, the difference of the numbers, or $4^{\circ} 22' 21''$, would have been the longitude, as referred to the first meridian of this country.

These observations apply equally to any other meridians; and to facilitate this reduction, we have inserted the difference of longitude between the first meridian of England, and those

from which the reckoning is generally commenced in other countries of Europe; and from which numbers, their difference from each other is easily found. See **FIRST MERIDIAN**, CHAPTER V

24. As a great circle may be drawn through any two points on the surface of the globe, and the shortest distance between them is the arc of this circle, the difference of latitude and longitude furnishes the means of ascertaining the distance and bearing of the two places. When these are situated on the same meridian, the difference of latitude is evidently the required distance; but in all other cases the arc of the great circle which measures this distance, can only be found by the rules of Spherical Trigonometry. Then, the complements of latitude are the two sides of a spherical triangle, and the difference of longitude the angle comprised between them. The required distance is the remaining side, which is less than any other arc comprised between the two places. Let Madrid and New York be taken as an example; both are situated nearly on the parallel of $40^{\circ} 30'$. Madrid is in west longitude $3^{\circ} 42' 15''$, and New York, in $74^{\circ} 11'$, the difference is, therefore, $70^{\circ} 28' 45''$, on the parallel of latitude, which, multiplied by 45.62 , the number of geographical miles in a degree on that parallel (See CHAPTER V.) the product will be 3215 miles, which is the distance between the two places, as measured on the parallel of latitude. The arc of the great circle, however, which passes through these places, is found by the rules of Trigonometry to be $52^{\circ} 2' 20''$; and this multiplied by 60 gives 3123 geographical miles for the distance. Hence, 92 miles is the difference of these results. The less is the correct one; and, therefore, any other arc than that of a great circle gives the distance too great. When, however, any two places are situated *nearly* east and west of each other, the difference of longitude may be taken on the parallel, which is equal to half the sum of their latitudes, and this converted into miles, as above, will afford a good approximation to the real distance, the greater convexity of the parallel being compensated by the obliquity of the great circle on which this distance should be estimated. But, when the difference of latitude exceeds a degree or two, the distance must be calculated by the rules of Spherical Trigonometry. Thus, the distance between the Royal Observatory at Greenwich, in latitude $51^{\circ} 28' 40''$, and St. Petersburg, in latitude $59^{\circ} 56' 23''$, and longitude $30^{\circ} 18' 45''$, is found by these rules, to be nearly 1130 geographical miles. The method above stated gives it about one-tenth too little. Another approximating method is to convert the difference of latitude and longitude into miles, and then consider these as the sides of a rectilinear right-angled triangle, having the required distance for its hypotenuse. This will then be found by squaring the two sides, and extracting the square root of the sum of these squares. But, on account of the angle included between the meridian and parallel being *less* than a right angle, and the sides being curves, this method gives the distance too great. In the preceding example it gives 1242.5 geographical miles instead of 1130 .

25. When the places are situated on the same meridian, their **BEARING** from each other is north and south; when on the same parallel it is east and west; but when they are neither on the same meridian, nor parallel, their bearing must be found by Trigonometry. In that case, as the meridians which form the two sides, including the given angle, pass through the two places, the bearing of each place will always be the less of the two angles formed by the great circle, which measures their distance and the meridian of the other place. Thus, if the bearing of St. Petersburg from London be calculated from the spherical triangle having two sides (the complements of latitude) and the contained angle (the difference of longitude) given, it will be found to be $51^{\circ} 40'$, from the north towards the east. The bearing of London from St. Petersburg, however, is not, on the opposite point of the compass; for a similar calculation gives it equal to $76^{\circ} 58' 8''$, from the south towards the west. This

difference arises from the meridians not being parallel to each other; and consequently the alternate angles made by the intersection of the great circle with these meridians are not equal.

26. To determine the exact position of a place, another element, besides its latitude and longitude, is necessary, and this is its HEIGHT ABOVE the LEVEL of the SEA. This elevation is determined either by Trigonometrical or Barometrical measurement: There is evidently a connexion between the height of any place and the distance that can be seen from that elevation, provided the view, be uninterrupted. Hence, if either the height or distance be known, the other may readily be found. One of the best rules for accomplishing this, is to multiply the square root of the height of the eye in feet, by 1.2247, and the product will be the distance that can be seen in English miles. For a height of thirty-six feet above the level of the sea we have therefore, $1.2247 \times 6 = 7.3482$ miles. Again, if the greatest distance at which an object can be seen, be given in miles, its height will be found by dividing this distance by 1.2247, and squaring the quotient, which gives the height of the object in feet. This is the reverse of the above rule. Hence, if we take the same distance, we shall have $(7.3482)^2 = 36$ feet, the height required. See DISTANCE, in CHAPTER V.

27. The shape of the earth has already been shown to be *nearly* that of a sphere, (Art. 2.) but it still remains to explain the method of finding its magnitude and exact figure. To a person accustomed only to contemplate what he sees on the terrestrial surface, this appears impracticable; but to those who can extend their views to the heavens, and embrace at once the relations which subsist between the positions and motions of the bodies that constitute the solar system, and adorn the starry firmament, the practicability is evident. To ascertain this figure, parts of the earth's surface are measured in different directions, and the general result deduced from a comparison of these measures with each other, especially those of distant arcs of great circles. The usual method is to determine the length of a meridional degree in different latitudes, and by comparing these lengths, to deduce the form and magnitude of the whole terrestrial mass by the known principles of Geometry. Though this mode of procedure affords a good approximation to the magnitude of the globe, it is less satisfactory in reference to its figure; since the arcs that are compared are seldom on the same meridian, and consequently afford no proof of the curvature of its different parts.

In explaining the methods by which these meridional degrees are determined, it will be sufficient to select an example from those which have been recently employed. The measurement of one of these arcs (for it is not necessary it should be exactly a degree) includes two distinct operations. The first is that of determining the meridian, and measuring the terrestrial arc comprised between two given points. The second consists in ascertaining the exact latitude of the two extremes of that arc.

A meridian may be conveniently traced by means of a transit instrument. This being fixed at any point of the line, and adjusted by the circumpolar stars, or any other method, an object placed on each side, where the axis of the instrument meets the horizon, will fix the meridian of that place. For the sake of convenience, we shall denominate these objects N and S. If then the instrument be placed at N or S, and its axis directed either to the other object, or the primitive station, it will again be in the meridian, which may then be extended to a greater distance N' or S', in the very same manner as the points N and S were fixed. In this way the operations may be continued to any required extent. Now, if the earth be a solid, generated by the revolution of a plane about its axis, all the meridians will be plane curves, and the direction fixed by the above operations will be the true terrestrial meridian; but if the earth be different from such a solid, the meridians will be curves of double curvature, and consequently they will not coincide with the line above described. Experience, however, has

shown, that if there be any difference in this respect, it is so small that it may be safely neglected in any extent which the operations in the same country embrace.

The next object is to determine the real extent of any arc of this meridian, in known measures; which is accomplished either by actual measurement, or by calculation from a series of triangles. The simple measurement of the meridian, supposes the earth's surface to be level, or to have the same convexity as the surface of the sea; but this condition can seldom be realized, except in a few places near the shore. One of these was found in Pennsylvania; where Messrs. *Mason* and *Dixon* measured an arc of 179,359·313 English yards in length.

Having ascertained the linear distance between the extreme points of the arc, the next object is to determine the latitude at each extremity; for the difference of these latitudes is the angle which the vertical lines at these points make with each other. For let *OZ* and *O'Z'* (*fig. 15.*) be the two verticals drawn to the points *O* and *O'* of the meridian *OO'*; and suppose these verticals to be produced to the centre of the earth at *C*. Draw the lines *OH* and *O'H'*, perpendicular to *OZ* and *O'Z'*, representing the horizon at *OO'*; and the visual rays *OP* and *O'P'*, directed towards the same pole of the heavens; then the angles *POH* and *P'O'H'* will represent the elevations of the pole at the two points *O* and *O'*. Hence, if *OH''* be drawn parallel to *O'H'*, the angle *HOH''* will be equal to the angle *HCO* or *ZCZ'*; consequently, if at two points situated on the same terrestrial meridian, the height of the pole be taken, the difference of these heights will be the angle formed by the two verticals drawn to these points, or the latitude corresponding to the terrestrial arc contained between them. If the latitudes at these points be obtained from observations of a star, from zenith distances, or by any other means, the result will be the same.

The latitude of the northern extremity of the base measured in Pennsylvania was found to be 39° 56' 19",
That of its southern extremity..... 38 27 34

The difference, or the meridional arc comprised between the two stations was, therefore, ... 1° 28' 45"

It is not necessary that the two places of observation should exactly include a degree; for this would always be difficult, and frequently impracticable. As a small part of the meridian will not be sensibly different from the arc of a circle, the length of one degree may be readily found from the arc measured. For if the angle comprised between the verticals be denoted by a , and the length of the arc by l , we shall have $a : 1^\circ :: l : \frac{1^\circ \times l}{a}$, which expresses the length of a degree at the middle point of the arc. In the preceding case, we have $1^\circ 28' 45''$ or $1^\circ 4792 : 1^\circ :: 179,359\cdot313 : 121,254\cdot27$ yards, or 68·8932 miles. And, by adding the latitudes of the extreme points together, and dividing by 2, we obtain $39^\circ 11' 56''\frac{1}{2}$ for the middle point of the arc.

28. This process is the most simple that can be employed for obtaining the figure and magnitude of the earth; but the circumstances under which it can be strictly executed are seldom experienced. It is altogether impracticable in thickly inhabited countries; and astronomers have therefore been obliged to attain the same object by a different method, in which the arc is not absolutely measured. To accomplish this, a base in any convenient situation, is first correctly determined. From this base a series of triangles is formed, by observing such distant objects, or signals, as can be distinctly seen from each other. In this process, the given base forms one side of the first triangle, and as the angles at each end of this side have been correctly measured, the other sides may readily be calculated. By observing the angles at each station, subtended by two other signals, the computed side will be common to two triangles. The series may, therefore, be carried to any extent at pleasure; and the sides of

any distant triangle found by calculation. These triangles are continued as nearly in the direction of the meridian as circumstances will permit, till a convenient place for measuring a second base is found. This being a side of the last triangle, the agreement of the numbers, as derived from computation, with those obtained by actual measurement, confirms the accuracy of the whole process. It is not, however, sufficient to know only the sides and angles of these triangles, to ascertain the extent of the meridional arc, the bearings must also be determined; but this being found for any one of them by observation, those of the others are easily calculated.

This process will be familiarly illustrated by a reference to *fig. 16*. The first triangle ABC has its vertex at the point A, where the observations commence, and its other two angles B and C, at any other two visible objects. In this triangle the base AB is measured, and the angles BAC and ABC are found by observation; then their sum taken from 180 degrees, gives the angle ACB; which should also be observed as a check upon the angles taken at the other two stations. The inclination of the base to the meridian AZ, or the angle BAM, should also be observed; and then with these given quantities the sides AC, BC, and the distance AM, made by the intersection of the side BC and the meridian, are found by the principles of plane Trigonometry. A second triangle is then formed with the former objects B, C, and a third D, which can be seen from the two others. The first of these triangles is horizontal; but on account of the convexity of the earth, the second is not in the same plane with it, the only common part being the line BC; hence, the prolongation of the meridian AM will be elevated above the plane of the triangle BCD. It may, however, be depressed into this plane, by supposing it to turn about BC as an axis. In this motion the angle M' MC is not changed, because MM' describes a conical surface; and as the two triangles ABC and BCD are very nearly in the same plane prior to this supposed movement, each point of MM' describes a very small circular arc, which may be regarded as a straight line, perpendicular to the plane of the triangle BCD. So that the whole operation is reduced to that of supposing the line MM' to be depressed in the direction of the perpendicular at the point M; after which the meridian thus produced meets the side DC of the second triangle in the point M'. The position and distance of this point are then determined as in the preceding case. The same process is to be continued for each successive triangle, till the whole series be completed to the required extent.

29. Such is the nature of the curve determined by *geodesic* operations. The first part is a tangent to the surface of the earth; the second is a prolongation of the first, depressed in a vertical direction; and so in succession. This process will evidently give the same result as the two American astronomers obtained by their operations in Pennsylvania.

The strict execution of such a series of operations, however, requires a succession of points situated exactly at the same distance from the centre of the earth, and so disposed as to serve for the angular points of the triangles. Then the sides of these triangles would be the chords of the same spherical surface, and their planes, by following the general surface of the earth, would always be horizontal. The terrestrial inequalities, however, render such a choice of signals impossible; but this circumstance does not prevent the operations from being executed, as the observed angles may easily be reduced to what they would have been if the signals had been so disposed.

30. M. *Picard* was the first who, in 1670, employed this method for connecting the parallels of *Malvoisine* and *Amiens*. Since that period, the same process has frequently been repeated in other parts of the globe, by the most skilful astronomers, and with instruments of still greater accuracy than those used by *Picard*. The difference of latitude between these two places, he found to be $1^{\circ} 22' 55''$, and the meridional distance 78,830 toises; which

makes the degree equal to 57,057 toises. The distance between *Malvoisine* and *Sourdon* he made equal to 68,430 toises, and their difference of latitude $1^{\circ} 11' 57''$, which gives 57,064 toises for the length of the degree in this part of the arc. The mean is, therefore, 57,060 toises. According to this calculation, each marine league contains 2853 toises. Adopting the spherical hypothesis, (which is sufficiently accurate for all geographical purposes) and the dimensions of the globe in these leagues are,

The circumference is equal	7200 leagues.
The diameter	2292
The radius	1146
And the superficial content	16,501,200 square leagues.

A comparison of the most accurate results obtained by measurements of this kind, shows that the figure of the earth is not an exact sphere, though approaching nearly to that shape. For the general list of these results we must refer to the article *DEGREE*, in *CHAP. V*; but the following selection bears immediately upon this point.

Places of observation.	Middle of the arc. North Latitude.		Length of the Degree Eng. M.		Measurers' Names.
Peru.....	00°	00'	68.732	.....	Bonguer.
Pennsylvania	39	12	68.893	.....	Mason and Dixon.
Italy.....	43	0	68.998	.....	Bascovich and Lamaire.
France.....	46	12	69.046	.....	Delambre and Mechain.
Lapland	66	20½	69.292	.....	Swanberg, &c.

These numbers clearly show that the degrees of the terrestrial meridian, measured in different latitudes, are not equal to each other.

The degree measured in Lapland exceeds that measured at the equator by .56 of an English mile; or 985.6 yards, and their lengths generally increase as they approach the poles.

The convexity of the meridians therefore diminishes as the distance from the equator increases.

31. If the earth were a perfect sphere, all lines drawn perpendicular to its surface would meet in the centre; and when the angles they form at that point are equal, the arcs which subtend these angles would also be equal. On the contrary; if the earth be not spherical, equal angles will be subtended by *unequal* arcs. For, let *AC, AC'* (*fig. 17*) be perpendicular to the curve at *A* and *A'*; and also *BC'* and *B'C'*, perpendicular to it at *B* and *B'*; and the angle *C* equal to that at *C'*; then, as the curve is more convex between *AA'* than between *B* and *B'*, the arc *BB'* is greater than *AA'*. From this, in conjunction with the preceding numbers, it appears that the figure of the earth is that of a spheroid, flattened towards the poles, and protuberant at the equator. A comparison of the preceding measures also shows, that the increase in the lengths of degrees, in approaching the pole, is very nearly as the squares of the sines of the latitudes where they were measured. It is also evident, that the difference between the spheroidal figure of the earth and that of a sphere is extremely small; for the greatest difference in the lengths of the degrees is only a very small fraction of the arc.

32. From the measurement of degrees in the two hemispheres, it has been concluded that the curvature of the meridians is not the same on the south, as it is on the north of the equator. A degree measured at the Cape of Good Hope, by *La Caille*, in south latitude $33^{\circ} 18\frac{1}{4}'$, was found to be equal to 69.076 miles; and therefore greater than the degree measured in France, in latitude $46^{\circ} 12'$; which was only 69.046 miles. From this and other similar comparisons, it has been inferred that the figure of the earth is not only irregular but complex. It

MATHEMATICAL GEOGRAPHY PLATE II.

Fig 17

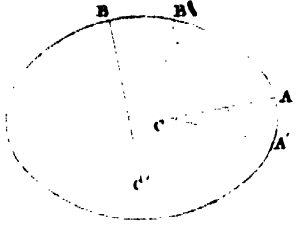


Fig 22

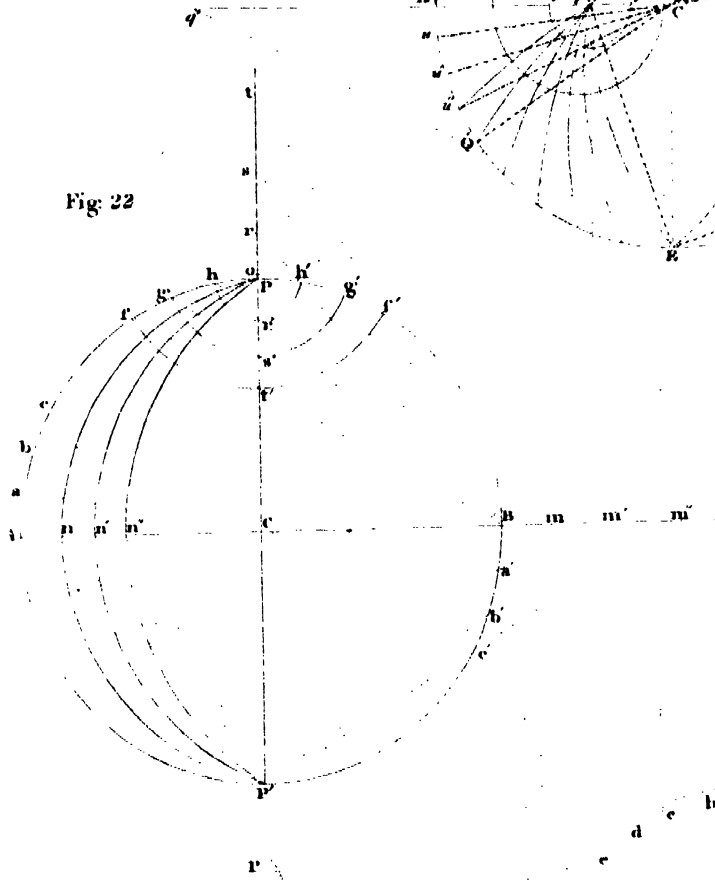


Fig 20

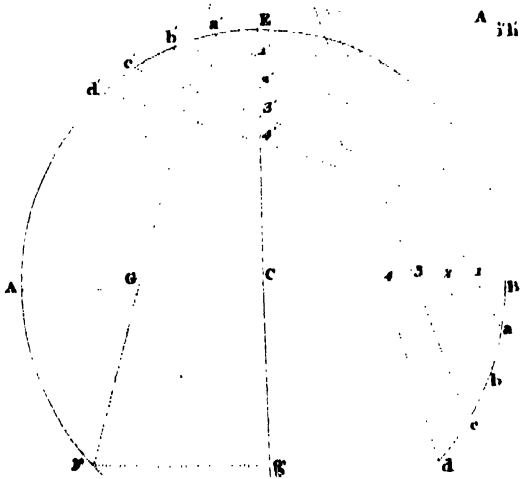


Fig 23

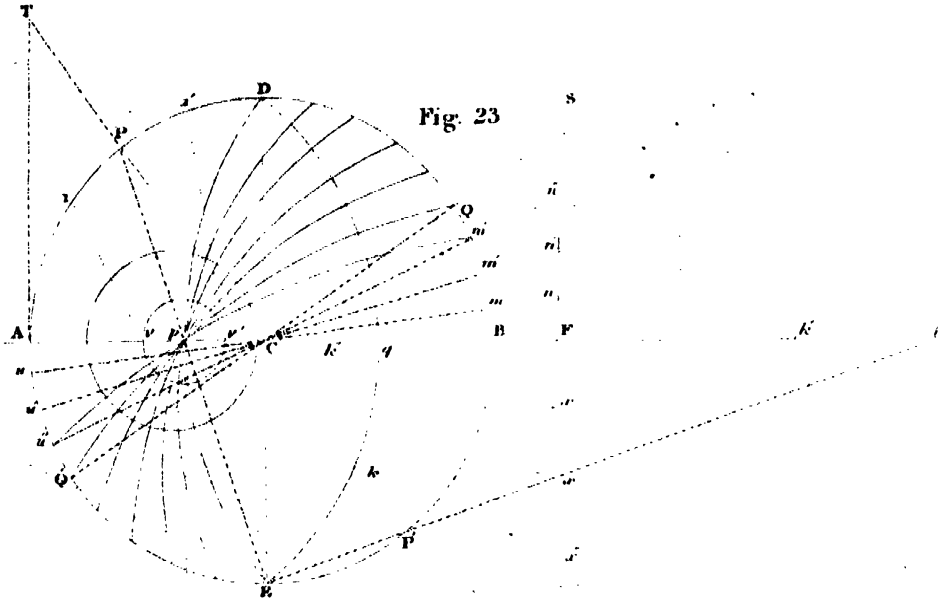


Fig 19

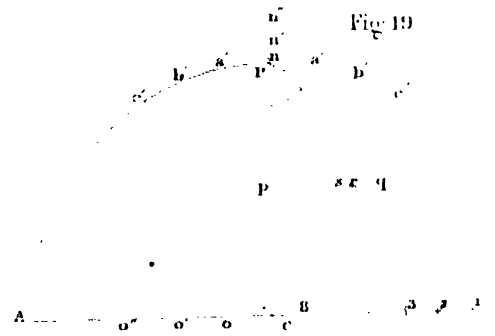


Fig 18

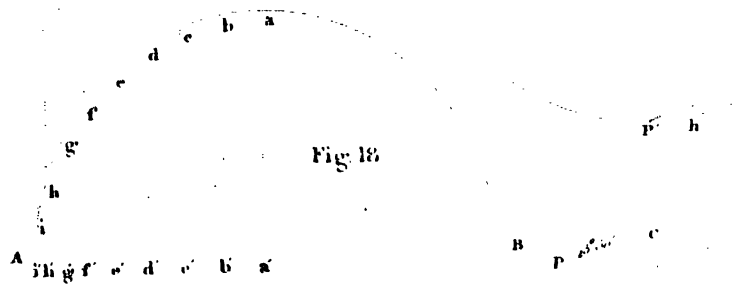
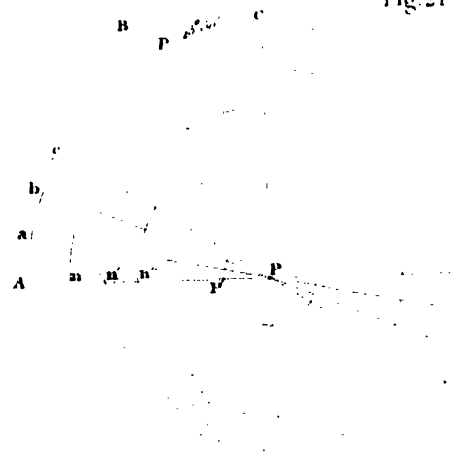


Fig 21



should be remarked, however, that the accuracy of these measures cannot be depended upon with sufficient confidence to place the figure of the terrestrial globe among demonstrated truths.

33. On considering the various degrees that have been measured with all the precision that modern science confers, we easily perceive that the meridians are not circles; and in searching a curve which agrees with these results, the most simple is the ellipse, having its transverse and conjugate axes terminating at the equator and the poles. In this position of the elliptic meridian, the curve is most convex in the equatorial regions, and flattest within the polar circles; and the lengths of the degrees follow a similar ratio to those obtained by actual measurement. But as we may conceive an indefinite number of ellipses to be so placed, that must be fixed upon, as the curve of the meridian, which agrees best with the observations.

To afford a clear idea of this choice, it may be observed, that a circle may be drawn to touch any point of a curve, which shall more nearly coincide with that curve, than any other circle that can be drawn to the same point. From this near coincidence, the two curves will not sensibly differ from each other for a short distance on each side of the point of contact; so that the space actually measured on the elliptic curve may be supposed to have been measured on the circle. The radius of this circle, however, necessarily varies with the nature of the tangential curve, and will consequently be different for different parts of that curve; but the value of this radius of the osculatory circle may be found by calculation for any given latitude, in terms of the two axes of the ellipse. This value being multiplied by 2×3.1416 (the ratio of the circumference of a circle to its radius), and divided by 360, gives an expression for the length of a degree at that latitude. Hence, by putting two expressions thus obtained equal to the lengths of the two corresponding degrees measured in these latitudes, we obtain two equations, involving only the two axes of the elliptic meridian, as the unknown quantities; and which the solution of these equations will, therefore, determine. This being done for the degrees which have been most correctly measured, in different latitudes, the near coincidence of the results shows the close approximation that has been obtained, in the figure of the supposed ellipse. The arc measured at the equator by MM. Bouguer and La Condamine, compared with that measured in France by MM. Delambre and Mechain, gives the following results for the two axes, expressed in toises of the French Academy.

Semi-transverse axis, or radius of the equator	3,271,864 toises
Semi-conjugate axis, or radius of the pole	3,261,265
Difference of these radii	10,59

This difference, divided by the semi-transverse axis, gives the compression, or ellipticity of the earth, denoting its flatness at the poles, as compared with its protuberancy at the equator. The ellipticity, deduced from the preceding dimensions is, therefore, $\frac{1}{308.65}$, which is confirmed by the results derived from other methods of solving the same problem.

By converting the above dimensions into English miles, at the rate of 2853 toises to the marine or geographical league, and considering this last as equal to 3.46 English miles, we shall have,

The equatorial diameter of the globe equal to	7936 English miles.
The polar axis equal to	7910 $\frac{1}{2}$
And consequently the difference of these diameters equal to	25 $\frac{1}{2}$

If the arithmetical mean of these two axes be taken for the diameter of the earth, considered as a sphere, we shall have $7923.125 \times 3.1416 = 24,891$ miles nearly, for the circumference. See ELLIPTICITY in CHAPTER V.

leagues, the area answering to this part of the figure. The sum of these will give the area of the whole surface. Hence,

For 5° of Longitude and 2° of latitude we have	3018.7 square leagues.
For 5° $16' 35''$	426.537
For $21\frac{1}{2}$ $2^{\circ} 16' 35''$	246.9085
<hr/>	
The whole area of Pennsylvania.....	3692.1455 square leagues.

Section II.

CONSTRUCTION AND USE OF MAPS.

37. HAVING shown the figure of the earth to be nearly that of a sphere, it follows, as a necessary consequence, that the various parts of its surface may be correctly delineated on a spherical body. Hence, globes always afford the clearest ideas of the comparative extent, and relative situations, of the different countries, and other component parts of that surface. If, therefore, globes of sufficient magnitude could easily be constructed, and conveniently used, they would always constitute the best representatives of the earth. But, as the delineations they exhibit must always be confined to a small scale, they are inadequate to the common purposes of geographical illustration. The configuration, the comparative extent, and the general outlines of countries are all they can properly embrace. This is evident from the consideration, that if only one degree of latitude be allowed to an inch, (which would make the map of England about six inches from north to south,) the diameter of the globe corresponding to this size would exceed 9 feet and a half. Recourse must, therefore, be had to the representation of a spherical surface on a plane, according to the rules of perspective; and though this cannot be done with mathematical accuracy, various approximations have been found which possess sufficient correctness for all the purposes of illustration.

To accomplish this, two distinct kinds of representation have been employed: the one executed according to the *Laws of Projection*, and the other effected by means of *Development*. The principal projections under the first of these heads are the *orthographic*, the *stereographic*, the *central*, and the *globular*.

38. CONSTRUCTION BY PROJECTION.—In the *orthographic* projection, the point of view, c that in which the eye of the observer is supposed to be placed, is considered as being at an infinite distance from the plane of projection. This plane passes through the centre of the globe, and is perpendicular to all the visual rays, which, according to the supposed situation of the eye, are necessarily parallel to each other. The surface of a hemisphere is thus reduced to that of a great circle of the sphere, which is demonstrated by the principles of geometry to be only half the hemispherical area; and consequently all parts of that surface are contracted by this projection. But equal parts of the spherical surface are not reduced to equal spaces on the map, as is obvious from an inspection of *fig. 18*. By this projection the arc ab is represented by the straight line $a'b'$, the arc bc by the line $b'c'$, and so in succession, till ai is projected into $A'V$. Hence it is evident that the parts of the arc near the central ray aa' , being almost parallel to the line AB , experience but a small contraction. But this

increases rapidly in approaching the extremities, A and B, of that line. Equal spaces on the surface of the sphere, and their projections on the plane, are also dissimilar, as well as unequal. Hence, this projection cannot, with propriety, be adopted in the construction of our common geographical Maps.

39. In the *Stereographic Projection*, the eye is supposed to be situated at the pole of the hemisphere opposite to that of which the surface is to be represented on the plane of projection. This plane also passes through the centre of the sphere, and is perpendicular to the visual ray from that centre. In *fig. 19*, P is the situation of the eye, APB a section of the hemisphere to be delineated, and AB, the diameter of the plane of projection. Here, as all the equal parts of the quadrant BP are projected into the corresponding parts of the right line BC, they are also contracted; but the diminution is obviously more regular than in the preceding method. The stereographic projection is therefore much better adapted to the construction of geographical maps than the orthographic.

The principal properties of this projection are the following.—1. The projection of any arc of a circle passing through the pole opposite the eye is a right line, equal to the tangent of half the distance of that arc from the pole. 2. The projections of all circles which do not pass through this pole are circles. 3. The projections of all circles parallel to the plane of projection are concentric circles, whose centres coincide with that of the plane of projection; and their radii are the tangents of half the arcs which measure their respective distances from the pole. 4. The radius of projection of any great circle of the sphere, is equal to the secant of the angle which the plane of that circle makes with the plane of projection. 5. The radius of projection of any small oblique circle is equal to half the sum, or half the difference of the semi-tangents of its greatest and least distances from the pole opposite the eye, according as this pole is within or without the given circle. 6. The angle which any two circles make with each other on the plane of projection, is equal to that made by the original circles on the surface of the sphere.

From these properties it follows, that the projections of all parts of the sphere are either right lines or circles, which renders this method very convenient for practice. It is, therefore, frequently employed in the construction of hemispherical maps, though it does not give a correct representation of the globe. For, in this projection the distances between the meridians are very unequal, the greatest being near the margin of the map, whence they decrease in approaching the central meridian. The intervals between the parallels of latitude are likewise subject to similar inequalities; being the greatest at the poles, and diminishing as they approach the equator. The corresponding spaces on the map and the globe are therefore unequal. This will be rendered still more evident by considering that the superficial area of a hemisphere is equal to two great circles of the sphere; and consequently the spaces on the map, if the projection were accurate, would be equal to half those on the globe. But it is obvious from an inspection of figure 19, that the space B1, between the primitive circle and the next meridian, is nearly equal to the adjacent ten degrees of the arc, or to Ba; but C8 is only about half of Ph.—The same observation also applies to the parallels of latitude, the spaces between which diminish from the poles to the centre. Now, as the areas of these spaces are as the rectangles of these two dimensions, it follows that those near the margin of a map, stereographically constructed, are nearly equal to the corresponding spaces on the globe, while those near the centre are little more than *one fourth* of the original spaces.

40. A third projection in perspective is the *Central*. This supposes the eye to be placed at the centre of the sphere, and the plane of projection to be tangential to its surface. It presents

the advantage of having all the places situated on the same great circle of the globe represented on the map by a right line ; but as it enlarges the parts near the margin of the map so much, it is seldom employed for geographical purposes.

41. The *Globular Projection* is a modification of the stereographic, and was proposed by *La Hire*, for the purpose of introducing a greater degree of symmetry into the various parts of the globular surface and their corresponding representations on the map. Instead of conceiving the eye to be placed at the surface of the sphere, he supposed the radius of the globe, perpendicular to the plane of projection, to be produced, and the point of view to be in this line, and at a distance from the surface of the sphere equal to the sine of 45° . By this means the radius of the plane of projection is bisected by the line which joins this point and the division of the arc answering to 45° . Thus (*fig. 20.*) if CE be produced to P, till EP be equal the sine of 45° , and the quadrantal arc AD be bisected in F, and PF be joined, then AC will also be bisected in G, and by drawing lines from P to every 10 degrees of the quadrant, all the other parts of the line AC will also be nearly equal to each other. But as the sine of 45° is equal to $\frac{1}{2}r\sqrt{2}$, where r is the radius of the circle, its value is always an irrational quantity, and therefore the line EP, which is to be equal to this quantity, cannot be set off with accuracy. This, however, is no real inconvenience in practice. for $\frac{1}{2}r\sqrt{2} = .7071r$; and, consequently, if EP be made equal $.7r$, or $.71r$, it will not introduce any sensible error into the construction. Another easy method of finding the point P is to construct an equilateral triangle ABP on the diameter AB, which will also give the point P with sufficient accuracy for any practical purpose ; for in that case $CP = \frac{1}{2}AB\sqrt{3} = r\sqrt{3} = 1.732r$. Hence $CP - CE = EP = 1.732r - r = .732r$; which only differs from the sine of 45° by $.0249r$, a quantity which is too small to introduce any material error into the construction.

M. Parent, however, observed that, though the radius of the plane of projection was bisected by the line PE, it still required to be ascertained where the point P must be placed that the inequalities between the divisions of the diameter AB might be the least possible. To answer this condition, he found $EP = .595r$, for which $\frac{6}{10}$ ths of the radius may be taken in any practical case. The same geometer also found that, when it is required that the zones of the hemispherical map should occupy spaces respectively proportional to those they have on the sphere which they represent, the point of view P must be removed to $1.105r$ beyond E, that is, EP must be made equal to $1.105r$, or very nearly $\frac{11}{10}$ ths of the radius. Hence it may be observed, that while these modifications of the stereographic projection sacrifice the advantage of the meridians and parallels of latitude, cutting each other at right angles, and change the circles into ellipses, they do not accurately preserve the equality of the space, or the similarity of the configurations.

In the globular projection, however, or in either of *M. Parent's* modifications of it, these inequalities are greatly reduced, for the divisions on the equator and the central meridian are equal to each other ; and therefore equal spaces on the sphere are represented by nearly equal spaces on the map ; a circumstance which renders this projection the most proper for geographical purposes. The meridians and parallels of latitude being ellipses of such small excentricity, they are generally made circular, which facilitates the construction, without distorting the map. Since the late invention of the excellent instrument for drawing ellipses, however, this approximation has been rendered unnecessary, by the facility with which these curves of any size and excentricity may now be drawn.

42. It is customary to consider the Stereographic Projection as embracing three distinct cases, in reference to the plane of the primitive circle. 1. That upon the plane of the equator, which is called the *polar projection*, because the eye is supposed to be in one of

the poles. 2. That upon the plane of the *meridian*, (generally that of the island of Ferro) which divides the globe into two hemi-spheres, the one containing the old and the other the new continent. This is usually called the *meridional projection*. 3. That upon the plane of the *rational horizon* of any place whatever, which supposes the eye to be situated at that place. This is the *horizontal projection*. The method of constructing each shall therefore be explained—taking the elegant constructions in *Puissant's Topographie* as our general guide.

43. CONSTRUCTION OF THE POLAR PROJECTION. In this projection the eye is supposed to be in one of the poles, and consequently in the point where all the meridians intersect each other. As the plane of the equator is the plane of projection, the meridians are necessarily represented by radii of that circle, and as the parallels of latitude are all parallel to the equator, they are represented by concentric circles, the common centre of which is that of the primitive circle.

Projection of the Meridians.—Let AP (*fig. 21.*) represent the radius of the terrestrial sphere, and ACBD one of the great circles of that sphere; then the centre P being taken for the projection of the optic axis, or the point of view which is placed at the pole, the circumference ACBD will be the projection of the equator. Now, as the planes of the meridians all intersect each other in the axis of the earth, the projection of the first meridian may necessarily be represented by any diameter of the primitive circle. Let this diameter be AB; and divide the circumference ACBD into the required number of equal parts, in the points *a, b, c, &c.* and *a', b', c', &c.* If the meridians and parallels are to be drawn to every 10°, the number of these parts will, of course, be nine in each quadrant. Then, though the centre P, and each pair of these corresponding points, draw the diameters, *aa', bb', cc', &c.* and they will be the meridians required. Hence, the difference of longitude of each pair of consecutive meridians will be measured by the arcs *Aa, ab, bc*; or *Ba', a'b', b'c', &c.*

Projection of the Parallels.—To describe the parallels corresponding to the above division, draw the diameter CD perpendicular to AB, and join the points *Da, Db, Dc, &c.*; then these lines will cut the diameter AB in the points *n, n', n'', &c.* With P as a centre, and *Pn, Pn', Pn'', &c.* as radii, describe circles, and they will be the parallels required. If *Cp* be set off equal to $23\frac{1}{2}^\circ$ and *Dp* be joined, cutting AP in *p'*, and with P as a centre, and *Pp'* as a radius, if a circle be described, it will be the projection of one of the polar circles.

In this method, D is the point of view, and the points *n, n', n'', &c.* are the stereographic projections of the corresponding points *a, b, c, &c.* belonging to the required parallels; for if the circle ACBD be conceived to turn about the diameter AB, until it make a right angle with the plane of the figure, the radius PD will be perpendicular to that plane, the point C will be the pole opposite the point of view D, and the arcs *Aa, Ab, Ac, &c.* will be the respective latitudes of the parallels *a, b, c, &c.* Consequently, the traces *n, n', n'', &c.* of the visual rays *Dn, Dn', Dn'', &c.* will represent the points *a, b, c, &c.* upon the perspective plane ACBD.

44. Having thus constructed the whole hemisphere, it only remains to mark the positions of places according to their latitude and longitude, to delineate the contours of lakes and seas, and to trace the courses of rivers, according to the same data. In this projection the meridians and parallels of latitude cut each other in the same manner as on the surface of the sphere. But, it should be remarked that, though the spaces contained between two meridians and two consecutive parallels, near the centre of the map, are represented on the plane of projection without much defect, those that are situated near the margin are greatly enlarged, in consequence of the increased obliquity of the visual rays as they recede from the optic axis.

45. *Construction of the Meridional Projection.*—When the primitive circle is a meridian

the point of view is upon the circumference of the equator, the projections of which is a right line, perpendicular to the axis of the earth, or to the central meridian of the map. This construction also embraces two distinct operations, the projection of the meridians, and that of the parallels of latitude.

Projection of the Meridians.—Let AB (fig. 19.) be the projection of the equator, PP' the axis of the earth, and C the centre of the map, or the projection of the point of view P, upon the plane of the meridian APBP', considered as the primitive circle. All the meridians have PP' for their common intersection, and their projections being circles, the circumferences of these circles will necessarily pass through the points P and P'. When the distance between each pair of the meridians is to be ten degrees, divide the arc BP' into nine equal parts in the points *a, b, c, &c.* and join Pa, Pb, Pc, &c.; then the points 1, 2, 3, &c. where these lines intersect CB, will be the points in that line through which the meridians must respectively pass. Consequently, the method by which they are to be drawn is reduced to that simple problem in the elements of geometry, by which a circle is described through three given points. Now if P1 be joined, the angle A1P', will evidently be equal to the angle A1P, and consequently the line AB, which bisects the angle P1P', will pass through the centre of the circle described through the three points. The same is also true with respect to the angles P2P', P3P', &c. and therefore the centres of all the meridians will be in the right line AB, or in that line produced.

If the lines P1, P2, P3, &c. be bisected, and perpendiculars drawn to these lines, at the points of bisection, it is evident, from the principles of geometry, that these perpendiculars will pass through the centres of the circles described through these points; and since the line AB also passes through the centres of the same circles, their intersections will necessarily determine these respective centres. Now, since a line drawn parallel to the base of any triangle cuts the other two sides proportionally, bisect PC in *p*, and draw *pq* parallel to CB, which will evidently bisect all the lines P1, P2, P3, &c. in the points *q, r, s, &c.* From these points draw the perpendiculars *qo, ro', so'', &c.* intersecting AB in the points *o, o', o'', &c.* then will these points be the centres required.—Hence, with the points *o, o', o'', &c.* as centres, and the lines *o1, o'2, o''3, &c.* as radii, describe the circles P1P', P2P', P3P', &c. which will be the meridians of the required hemisphere. From the symmetry of the figure, it is obvious that, if the distances Co, Co', Co'', &c. be set off on the line CB, from C towards B, and circular arcs be described from P to P', on the opposite side of PP', they will be the meridians corresponding to P1P', P2P', P3P', &c.

Projection of the Parallels. Divide the quadrants PA and PB, so as to make the parts Pa', a'b', b'c', &c. respectively equal to the parts Ba, ab, bc, &c.; then, since the parallel circles ought to pass through the corresponding points a'a' b'b', it is evident that their centres will be upon the axis PP', produced. Join Ca', Cb', Cc', &c. and draw the lines a'n, b'n', c'n'', &c. perpendicular to Ca' Cb', Cc', &c. and then it may easily be proved, by the elements of geometry, that these lines a'n, b'n', c'n'', &c. are the radii of the respective parallels a'a', b'b', c'c', &c. Hence with *n, n', n'', &c.* as centres, and the lines na', n'b', n''c', as radii, describe the circles a'a', b'b', c'c', &c. which will be the parallels required. If CP be produced, and the distances Pn, Pn', Pn'', &c. be set off from P' they will give the centres of the corresponding parallels to be described about the pole P'.

The following elegant construction of this case is given, by M. *Puissant*, in his *Topography*.

Projection of the Meridians.—Let AB, (fig. 22,) be the projection of the equator, PP' the axis of the earth, and C the centre of the Map, or the projection of the point of view upon the

plane of the meridian, $APBP'$, considered as the primitive circle. Then the centres of all the meridians will be in the line AB as before.—Divide the arc AP into any number of equal parts $Aa, ab, bc, \&c.$; draw the diameter aa' , and through its extremities draw $P'a$ and $P'a'$, which will cut AB , and AB produced, respectively, in the points n and m . These points will be the respective projections of the extremities of that diameter of the meridian passing through a point, of which the longitude, with respect to the first meridian PAP' , is measured by the arc Aa . If, therefore, from the middle of mn , as a centre, and with a radius equal to half mn , the arc PnP' be described, it will be the projection of the required meridian.

Employing the same construction for the points $b', c', \&c.$ we shall evidently have the projections of the other meridians; and in consequence of the symmetry of the figure, the same method which answers for the semicircle PAP' , will also serve for PBP' . The meridian which has its plane perpendicular to the plane of Projection, APB , will evidently be represented by the axis PP' .

If any difficulty be experienced in comprehending this construction, it will only be necessary to conceive, as in the preceding case, the circle $APBP'$ to turn about AB , so as to take a position perpendicular to the plane of the figure; then the radius CP' will be perpendicular to that plane, P' representing the point of view, and the circle $APBP'$ the equator, divided into any given number of equal parts. When the meridians are to be drawn through every $10'$, the number of these parts will be 36. Now, if through the points of division $a, b, c, \&c.$ we suppose the visual rays $P'a, P'b, P'c, \&c.$ to be drawn, their traces $n, n', n'', \&c.$ upon the place of projection, will represent the corresponding points of the meridians.

Projection of the Parallels.—These circular curves ought to pass through the corresponding points of division $hh', gg', ff', \&c.$ and their centres will necessarily be situated on the prolongation of the axis PP' , and may be determined as follows.

Draw the right lines Bh and Bh' , the first cutting PP in r' , and the other in r , and nr' will be the diameter of the parallel. Since the three points h, r', h' , are upon the parallel nh' , all is given that is necessary for describing it. Therefore, if with o , the middle of nr' , as a centre, and a radius equal to oh' , the arc $hr'h'$ be described, it will be the parallel answering to the latitude h ; and consequently if each of the divisions be $10'$, it will be that to latitude $80'$. The same construction will give all the other parallels $gg', ff', \&c.$

46. CONSTRUCTION OF THE HORIZONTAL PROJECTION.—In this construction the rational horizon is the plane of projection; the point of view is the pole of that horizon, and the meridian which passes through the place for which the map is to be constructed is a right line, and is called the *principal meridian*.

Projection of the Meridians.—Let $ADBE$ (*fig. 23.*) be the horizon of the place: its centre C will be the projection of the point of view, or of the pole of that horizon. Let AB , also, be the diameter which represents the principal meridian, or that which passes through the middle of the map. If the angle PCA be equal to the height of the pole, and PE perpendicular to AB , the right line PE cuts AB in a point p , which will be the projection of the elevated pole of the globe P . If EP be drawn and produced to meet the prolongation of AB in p' , this point will be the projection of the depressed pole P' . The projection of the meridians, all which intersect each other in the points p and p' , have their centres upon the right line SS' , perpendicular to the middle of pp' , at F . This line SS' is called the line of the centres of the meridians; and it is remarkable that CF is equal to AT , which is the tangent of the arc that measures the height of the pole. To render the principles of this construction more evident, suppose as in the preceding cases, the circle $ADBE$ to be turned about AB , till it becomes

perpendicular to its primitive position. In that state, PP' will represent the axis of the earth, the radius CE will be perpendicular to the plane of the figure, the point E , considered as the point of view, will be projected into C ; and the visual rays EP and EP' will evidently meet the plane of projection in the points p and p' . To determine the projection of the meridians, a third point is requisite, and is thus found.

The meridian that has its plane perpendicular to the principal meridian AB , cuts the horizon in the right line DE , which is perpendicular to AB . Therefore, if from the point F as a centre, and with the radius FD , the arc DpE be described, it will be the projection of the meridian passing through 90° of longitude, reckoned from the principal meridian AB . The projection of the equator does not present greater difficulty; for, if the diameter QQ' be drawn perpendicular to PP' , it will be that of the equator, and its projection upon the map will be qq' . Consequently, if from the middle of the line qq' , as a centre, and with a radius equal to $\frac{1}{2} qq'$, or equal to the cosecant of the latitude from the centre of the map, the arc DqE be described, this arc will be the projection of half the equator.

It has already been stated, as one of the properties of the Stereographic projection, that the angle formed by the projections of two meridians, is equal to the angle formed by these meridians on the surface of the sphere, or rather by the intersection of their planes in the axis of that sphere (Art. 39). This gives the following construction. From the point p , as a centre, and with any arbitrary radius, as pF , for example, describe a circle, divide it into as many equal parts as there are meridians to be drawn, commencing at AB ; if these are to be 10° from each other, the number will be 36. Through all the points of division, draw radii, prolonging them till they meet the line of centres SS' , in the points $x, x', x'', \&c.$ which will be the centres of the projections of the meridians. It is evident, however, from the symmetry of the figure, that it will be sufficient to draw the radii in the first quadrant of the circle. But this process becomes inconvenient in practice, on account of the great increase of the radius, when the divisions approach the extremities of the quadrants. In this case, the points where the meridians meet the plane of projection may be determined in the following manner.

From any point in the line AB , or its prolongation, as F , for instance, let fall a perpendicular Fk , upon the line PP' , and set off Fk from F to k' ; then with this last point, as a centre, and a radius equal to $k'F$, or with any other radius taken at pleasure, but rather large, describe a circle, and divide it into the same number of equal parts as before. Next, draw the secants $k'n, k'n', k'n'', \&c.$ through all the points of this division, and their extremities, $n, n', n'', \&c.$ in the line SS' , are upon the projections of the planes of the meridians. Therefore, draw the right lines $nCu, n'Cu', n''Cu'', \&c.$ and the diameters $um, u'm', u''m'', \&c.$ will be the projections required. We shall consequently have three points $n, p, m, \&c.$ in each meridian of the map, from which the curves themselves are easily drawn, by the method already explained.

Projection of the Parallels.—The Parallels of latitude in this projection are easily described; for their planes being perpendicular to the principal meridian AB , the diameters of their projections are obtained in the same manner as that of the equator itself. Hence, after having divided the circumference into the given number of equal parts, draw right lines from the point of view E to every two corresponding points of the division. In the present instance El , and El' . The interval vv' , intercepted between these right lines, taken upon the meridian AB , will be the diameter of a parallel. Here, it evidently belongs to the parallel drawn through the first division from the pole, or 80° , since the arc AP measures the height of the pole.

But for the parallels which are very distant from the elevated pole P , this construction cannot be practised, because the point v is then so distant from the centre of the map. To obviate this inconvenience, the intersections of the planes of the parallels with the plane of

projection ADBE may be traced. These are necessarily parallel to DE, and their distance from it is

$$\frac{\sin. \text{latitude of the parallel}}{\cos. \text{altitude of the pole.}}$$

When the latitude is south, the pole P being the north pole, the value of x becomes negative : then, instead of setting off the value on CA, it must be set off on CB.

It follows from this that, if at the distance x from the line DE (*fig. 24.*) the parallel *de* be drawn, the points *d* and *e*, which are common to that parallel, and the circumference ADBE, belong to the parallel required ; but this circle also passes through a point, as *v*, determined by the preceding method. We have, therefore, the three points necessary for describing the arc.

Puissant's Topographie.

47. The inequality of the spaces as given by the Stereographic projection, does not admit the employment of a rectilineal scale for measuring the distance from one place to another, which is always the arc of a great circle, but, by means of the graduation itself, the distance between the centre of the map and any other place may always be determined. Thus, in a horizontal projection for London, the distance between that capital and any other place in the hemisphere of which it is the centre, may be readily found, by means of this graduation. This property results from the circumstance that all the great circles passing through the centre of the map, cut each other in the optic axis, and have right lines drawn through this centre for their projections. Hence they admit of a similar graduation to that of the equator, in the hemispheres constructed on the plane of the meridian.

48. CONSTRUCTION OF THE GLOBULAR PROJECTION.—According to the explanation of this projection and its advantages, (*Art. 41.*) the distance EP (*fig. 20.*) being equal to Fg, which is the sine of 45° , let the arc BD be divided into any number of equal parts (10° each, for example) in the points *a*, *b*, *c*, &c. and join Pa, Pb, Pc, &c. Then these lines will cut the diameter AB in the points 1, 2, 3, &c. and make the several divisions nearly equal to each other. If, therefore, circles be described through the points D1E, D2E, D3E, &c. by the methods already explained, they will constitute the meridians required. For, though these meridians are not actually circles, the excentricity of the ellipses is so small that it is usually neglected ; but the elliptic meridians may be easily drawn when the required accuracy renders it necessary. The curvature of the circular meridians near the middle of the map becomes so small, and their radii, in consequence, so great, that recourse must frequently be had to methods of drawing them without compasses. One of the most convenient instruments for this purpose is two rulers, AC and BC, (*fig. 25.*) united together, by a joint at C, so as to permit them to form any given angle with each other. When this simple machine is to be used, a steel pen, or other suitable instrument for drawing lines, must be fixed in the centre of motion C ; and, the map being stretched upon a smooth surface, this centre is made to coincide with the point *n* (*fig. 22.*) ; the edges of the rulers AB and BC resting against two pins of metal fixed at the poles P and P'. Then, without varying the angle ACB, the point C is to be moved from *n* to P and P' respectively, while the edges of the rulers are still pressed against the pins at these two points, and it will describe the arc PnP', required.—With the new instrument already mentioned, the elliptic meridians may be drawn with great facility.

In order to describe the parallels of latitude, let AB (*fig. 20.*) be produced to P' till BP' be equal to Fg. Divide the quadrant AE, like BD, into any number of equal parts in the points *a'*, *b'*, *c'*, &c. Then if Pa', Pb', Pc', &c. be joined, these lines will cut CE in the points 1', 2', 3', &c. through which the parallels of latitude are to be drawn as before.

49. As no construction can represent a spherical surface with accuracy on a plane, that

which preserves the greatest equality of ratio between the spaces themselves and their representatives should be preferred for geographical purposes. On this account, the suggestions of M. Parent, for dividing the diameters AB and DE (*fig. 20.*) of the plane of projection, as well as the circumscribing circle AEBD, into equal parts, deserve particular attention in constructing Maps of all extensive regions.—But, as the actual description of the meridians and parallels is not altered by this division, the method does not require further illustration.

50. PROJECTION BY DEVELOPEMENT.—Among the various forms under which solid bodies appear, the cone and cylinder immediately present themselves as those only whose surfaces can be accurately represented on a plane; for, if we conceive the surface of a cylinder to be unfolded, it will form a rectangle, and if the same be done, in reference to the cone, the expansion will be a triangle. This supposed process is called DEVELOPEMENT; and, as it relates to the *cone*, is, at the same time, the most easy and accurate mode of constructing *partial maps*, particularly when they do not embrace a great extent of latitude.

The cone evidently presents the greatest affinity to the hemisphere; and therefore affords advantages in its developement which no other body offers. In the comparison between the surface of a truncated cone, and a spherical zone, the surface of the cone is either considered as tangential to that of the sphere, or as cutting it in two parallels of latitude, and consequently lying partly within and partly without the sphere. In the first of these methods, the surface of the cone is supposed to coincide with that of the sphere in the middle parallel of the zone which the map is intended to represent. In this case, the parts of the cone above and below this parallel will necessarily be out of the sphere. The middle parallel is therefore the only one that has the same extent, both on the map and the globe; all the other parallels being greater on the former than on the latter. To explain the principles of this developement, let PC (*fig. 26.*) be the radius of the sphere, and *p* a place situated on the middle latitude of the zone to be partially represented (with respect to longitude) on the map, and draw the tangent *pP'* meeting the axis of the earth produced in *P'*, then will *pP'*, the cotangent of the latitude of *p*, be the radius of that parallel of latitude. For, in this construction, the meridians are evidently all right lines passing through the vertex of the cone, and the parallels of latitude are circles parallel to the base of the cone, and having their common centre in its vertex. Since the line *pP'* is greater than the arc *pP*, and the same for all lines drawn from the parallel to the vertex *P'*, it follows that the angles they form with each other at this vertex are greater than those formed by the meridians at *P*, the pole of the sphere. Now, as angles subtended by the same arc are inversely as the radii of the circles to which they belong, those at the vertex of the cone may easily be found by proportion; for with *pP'* and *pR* for the radii of the respective circles, if *n* denote the number of degrees in that arc on the sphere, we have

$$pP' : pR :: n : \frac{pR}{pP'} n,$$

which will be the number of degrees answering to the same arc on the map. This is always less than the number on the sphere, as *pP'* is in all cases greater than *pR*. Hence, it also follows, that the parallels both above and below the middle parallel of the map are greater than the corresponding ones on the sphere; and the more the map is extended in the direction of latitude, the more this difference is increased. To mark the projection of the two extreme parallels of the map, take upon the axis *P'C* (*fig. 27.*) the two distances *Pa* and *Pb*, each equal to half the difference of latitude of these parallels, and describe the arcs *DE* and *D'E'* through these points, then the two arcs will be the northern and southern boundaries of the required map. The projection is completed by dividing the central meridian and the parallel of latitude, each into the required number of equal parts, and drawing the arcs and lines as in the figure.

Fig. 31

Fig. 35

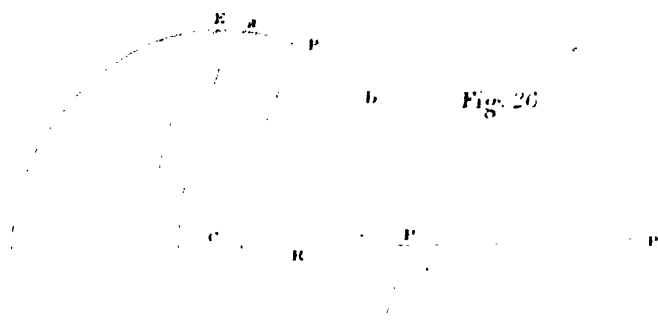


Fig. 26



Fig: 29

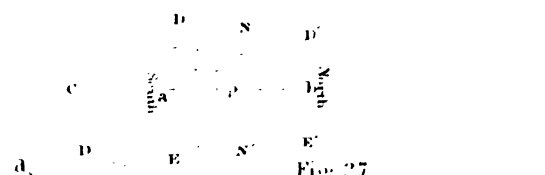


Fig. 24

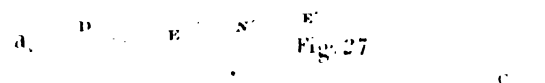


Fig. 27

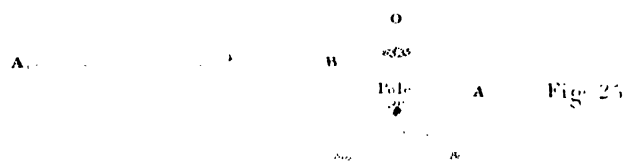


Fig. 25

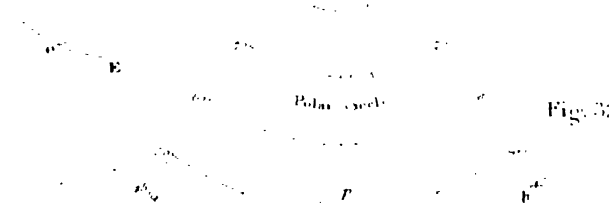


Fig. 3:

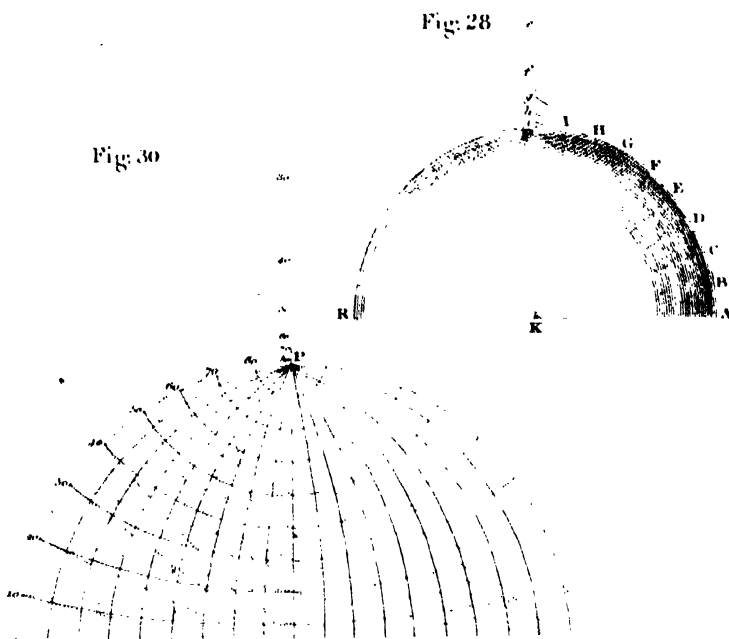


Fig. 30

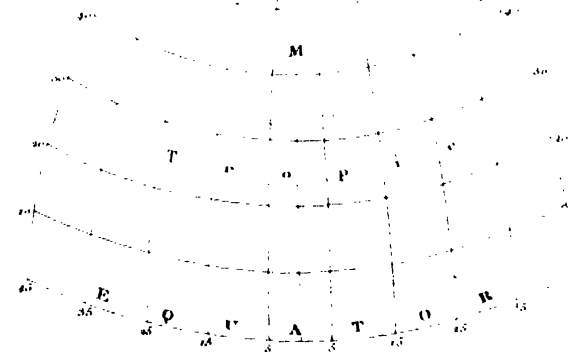


Fig. 33

51. It is obvious that this projection represents distances with accuracy only in the direction of the meridian, and on the middle parallel of latitude; and, consequently, that it does not preserve the equality between the spaces on the globe and their corresponding representatives on the map. To avoid this inaccuracy, two distinct methods have been adopted. The one is that of supposing the frustum of the cone to be partially inscribed in the sphere instead of being tangential to it; and the other is by increasing the meridional degrees. If, instead of the arc ab , its chord be taken for the side of the cone to be developed, the radii of the extreme parallels will become aP' and bP' , and the map will be correct at these parallels only, while all the intermediate parts will be defective; the spaces on the map being less than those on the sphere. This projection, therefore, answers only for maps of a small extent of latitude; as, when this is considerable, the defect is increased.

To avoid these opposite errors, some geometers, and among them *Delisle*, (in the construction of his general map of the Russian Empire) adopted for the cone, the surface of which was to be developed, that which cut the sphere in two parallels of latitude, equidistant from the extremes and the middle parallel. By this means the map had the same extent on these two circles as upon the corresponding parts of the globe; and the extent of the whole map differed very little from that of the spherical surface it was designed to represent; the excess towards its extremities being nearly compensated by the defect in the middle, which formed the inscribed portion of the conical surface. The map of Russia, constructed by *Delisle*, extended from the 40th to the 70th degree of latitude; the middle parallel, therefore, answered to the 55th degree, and the two parallels common to the map and the globe were those of $47^{\circ} 30'$, and $62^{\circ} 30'$. This projection presents several advantages in maps of considerable extent, as those of a large empire. Then if L and L' denote the latitudes of the two parallels which are common to the map and the globe, it has been shown (*Puissant's Topographic*) that the radii, R and R' of the respective parallels are expressed by the following formula, viz.

$$R = \frac{\cosine L}{\sin \frac{1}{2}(L+L')}, \text{ and } R' = \frac{\cosine L'}{\sin \frac{1}{2}(L+L')}.$$

Hence, if L denote the latitude of the greater of the two parallels above-mentioned, and the radius of the globe be considered as unity, we shall have the radius of the projection of that parallel in known terms, or

$$R = \frac{\cos. 47^{\circ} 30'}{\sin 55^{\circ}}$$

The scientific *Euler* also investigated the properties of this projection, with a design to render the errors at the two extreme parallels of the map equal to those at the middle parallel. That these conditions might be fulfilled, he found that the distance of the common centre of all the parallels from the surface of the sphere should be equal to 5° of latitude; that the angle comprised between two meridians which include one degree of latitude on the globe, is reduced on the map to $48' 44''$; and that the difference between the arc of a great circle, which measures the least distance between two points on the globe, and the right line which represents it on the map, is such, that an arc of 90° has upon the map a length equal to $90^{\circ} 79'$.

52. The Rev. *P. Murdoch*, who paid great attention to the construction of maps, and communicated the result of his investigations on the subject to the Royal Society, also proposed to substitute an inscribed instead of a tangential cone, which should be determined by the following condition, viz. that the area of the map should be equal to that of the spherical surface which it was designed to represent.

Mr. *Jamieson*, in his "Treatise on the Construction of Maps," has investigated "the construction of a particular map that shall exhibit the superficial and linear measures in their most accurate proportions;" from which he has deduced the following construction. Suppose APR (*fig. 28.*) to be a hemisphere, and that it is required to develope half of it on a plane surface; and which developement would consequently be one-fourth of the whole sphere. If this hemisphere be supposed to be bisected in the direction of one of its meridians, the semicircle APR will be the plane of projection of one half the surface of the hemisphere. Draw KP perpendicular to the diameter AR, and bisecting the arc APR in P. Divide the quadrant AP into nine equal parts, in the points B, C, D, &c. and draw the radii KB, KC, &c. and also the tangents Bb, Cc, Dd, and meeting the perpendicular, produced indefinitely towards S, in the points b, c, d, &c.

From A as a centre, (*fig. 29.*) with a division of the quadrant, (*fig. 28.*) set off the equal spaces AB, BC, CD, &c. With the radius AP, and centre A, describe the semicircle *APl*, which will be the developement of the spherical surface APR; and which will therefore represent a fourth part of the whole sphere. For, if the chords of the arcs, AB, BC, &c. be drawn, the quadrantal arc AP will then circumscribe a quarter of a polygon of thirty-six sides; and by transferring these chords to the other figure, by setting off the distances AB, BC, &c. the whole line AP (*fig. 29.*) will be equal to the sum of all the chords of the quadrantal arc AP, (*fig. 28.*) and consequently the semicircle *APl*, in the former figure, will be a developement of the spherical surface APR, in the latter.

To draw the *parallels* of latitude, produce AP indefinitely beyond P, and on this line set off the tangents Bb, Cc, Dd, &c. from (*fig. 28.*) and they will give the centres of the respective parallels. Therefore, if with these lines as radii, and the points b, c, d, &c. as centres, the arcs 10B10, 20C20, &c. be described, they will be the parallels required. To draw the meridians, divide *Al* and *Al* each into nine equal parts, and also divide each of the other parallels in the same manner; then through these corresponding points draw the curves, as in the figure, and they will be the required meridians.

53. The following is the method of constructing a map of this kind, when it is not required to develope any given spherical surface. From O as a centre, (*fig. 30.*) and with any convenient radius OC, describe the semicircle APC; draw OP at right angles to AC, and divide each of the radii OA, OP, and OC, into nine equal parts. Then, from the point A, and through the points of division in OP, draw the lines A10, A20, &c. and from O, draw the radii O10, O20, &c. to meet the former lines in the arc CP. From the extremities of these radii draw the tangents 10, 20, &c. meeting OP produced. Then these points will be the centres of the respective parallels of latitude.

Having drawn these parallels, divide each of them into nine equal parts, and draw the meridians as before. The same process followed with regard to the other semicircle, of which AC is the common diameter, will complete the planisphere.—It should be remarked, however, that as the meridians are not subject to a geometrical construction, they must be drawn with a steady hand through the several points of division.

The same writer also remarks, relative to this construction, that it "is a very near approximation to the truth—a very near developement of the surface of the globe. All the meridians and parallels intersect each other at right angles. The successive quadrilaterals between any two meridians, are nearly equal in area, and similar to those on the globe; those adjoining the central meridian, are almost exactly the same as their correspondent spaces on the sphere.—Every parallel of latitude is equally divided by the meridians, as they are on the globe; and every parallel, as terminated by two meridians on the map, is exceed

ingly near the same length as the corresponding part on the globe itself. It must, however, be observed, that the meridians are here represented of different lengths, all longer than those on the globe, except AP the central one. In this respect the method of developement is the converse of every meridional projection of the sphere; as this diminishes the lengths of the meridians as they approach the centre of the map; but even in this respect it is less defective in the length of the meridians than Mr. Murdoch's is in reference to the parallels of latitude. However, since the central meridian answers as a scale, the length of every meridian can be correctly ascertained; and the method of developement may, upon the whole, be considered the most correct and the easiest of construction of any yet published. It may be employed in the construction of the largest maps as well as the smallest, and will be the more exact, in proportion as the difference of longitude is less."—*Jamieson's Construction of Maps*.

54. A corrected projection of Flamstead is often employed on the continent for the construction of maps of comparatively small extent; and the following is a brief explanation of the method adopted by the French *Dépôt de la Guerre*. The application is to a gore, or semi-spherical spindle, the angle of which at the pole is 90° . The developement will be that of a spherical triangle having three right angles, and the surface of which is an eighth part of that of the sphere. Let Ca (*fig. 31.*) be the radius of the proposed sphere, and aO a line perpendicular and equal to Ca . If from the point a a perpendicular ae be let fall upon CO , it will be the radius of the parallel of latitude of 45° ; taking P for the pole, and Q for a point on the equator. This being done, aO may be considered as the side of a cone tangential to the sphere, and then its surface near the circle of contact will sensibly coincide with the spherical surface. Now, since it is required to develope a quarter of the circumference of which ae is the radius, or which is the same thing, the fourth part of the curve surface of the right cone that has Oa for its side; and ae is the sine of 45° when the radius aC or aO is taken for the whole sine. We shall therefore have the logarithm sine of $45^\circ = 9.8494850$, and the natural sine of the same arc $= .70711$. Then one-fourth of the circumference which has ae for its radius is 1.1101627 ; and since the arc aMb , (*fig. 32.*) described with the radius $aO = 1$, should have its length expressed by 1.1101627 , the following proportion will give the number of degrees in that arc, viz.

$$3.1416 : 180^\circ :: 1.1101627 : 63^\circ 60' 27''.$$

Such is the value of the angle aOb , or the amplitude of the arc aMb . When the meridians are to be drawn to every 10 degrees, the arc ab must be divided into nine equal parts, and the middle M of that arc will be upon the axis OM of the Map. But as the positions of the other parallels, as well as the lengths of their respective degrees, cannot be determined without a scale of equal parts, constructed according to the number of linear measures contained in the meridians of the earth, the first object is to construct this scale. The radius is equal to an arc of $57^\circ 29.564$, and each degree is 20 geographical or nautical leagues, hence the mean radius aC is very nearly 1146 leagues. Having made this scale of a proper size, as in *fig. 33*, where each division is equal to three leagues, and the whole length of the scale 1200 leagues, take from it the number of leagues comprised in each division of the meridian, viz. 200 when the parallels are to be drawn through every 10° , and set them off both ways from M , on the line OM . (*fig. 32.*) With the centre O , describe indefinite arcs, passing through all the points of division on the axis OM , and they will be the required parallels of latitude. Then, to draw the meridians, take from the same scale the number of leagues contained in 10° on each parallel respectively, as given in the Table under the article DEGREE, in CHAP. V. and set them off upon the corresponding parallel. This will give the points in these parallels through which the meridians are to be drawn. Thus, if we take the parallel of 60° , for example,

where the number of leagues in each degree is 10, the respective divisions of that arc will each be 100 leagues; which being taken from the scale, and set off on the arc from the central meridian OM, will give the several points required.

It should be observed, that the extent of any arc found by this method is a little greater than it ought to be, since we assign to the chord of the arc the length of the arc itself; but the error thus introduced is less in proportion as the curvature of the arc is diminished. The amplitude of every parallel may, however, be determined by means of the angle formed by the two radii drawn to its extremities, as was done for the mean parallel of 45° . Instead of giving an arbitrary radius to the sphere, as in the above instance, it is more commonly fixed by means of a scale previously constructed, and the parts of which have a given ratio to the linear measures of the country in which it is adopted. The metrical scales, for instance, employed by the *Dépôt General de la Guerre*, in France, for their maps of the four quarters of the globe, was $\frac{1}{2,000,000}$; that is, an extent of 2,000,000 metres on the earth's surface, was represented on the map by one metre. According to this scale, the radius of the earth, which is 6,366,198 metres, would only have upon the map a length of $\frac{6,366,198}{2,000,000} = 3.183099$ metres. *Puissant's Topographie*.

55. Having explained the construction of maps by conical developement, that of *Mercator's Chart*, so generally used by mariners, shall be briefly described, in completing the subject. The leading property of *Rhumb-lines*, or those which are indicated by the direction of the compass, is, that they cut all the meridians at the same angle, which causes them to form a spiral upon the surface of the globe, denominated a *loxodromic curve*. It is not only difficult to construct charts of this kind, but inconvenient for mariners to measure on them the course which the vessel has run, or that which still remains to be accomplished. To remove this difficulty, a projection has been adopted in which the meridians are all straight and parallel lines. The first plan which presented itself for satisfying this condition was the developement of a cylinder. If it be conceived that a zone of a small extent of latitude is either inscribed in, or circumscribed about a cylinder, whose axis coincides with the axis of the globe, the planes of the meridians will then cut the curve surface of the cylinder in right lines, which are parallel to this axis. The planes of the parallels, on the contrary, form on the surface of the cylinder equal and parallel circles, each being equal to the circumference of the cylinder. When this cylindrical surface is supposed to be developed, these parallels will become right lines, parallel to each other, and perpendicular to the meridians. In this developement it is evident that the divisions of the parallels have their true lengths only on that which is common to the sphere and the cylinder. When the cylinder circumscribes the whole sphere, the area of the map is equal to that of the spherical zone to which it corresponds. This kind of Maps, however, are now seldom constructed.

56. In 1550, *Gerard Mercator*, who was then occupied with the construction of maps, considered that navigators did not employ them for the purpose of ascertaining the figures of countries, but merely for tracing the extent and direction of their course, and determining the distance they had still to sail, as well as the direction in which it was necessary to steer, to reach the intended port. He thus conceived the idea of the *Reduced Chart*, which completely answers these purposes; but the principles of its construction were afterwards demonstrated by *Wright*, *Gregory*, *Halley*, and others. In this Chart the meridians are straight and parallel lines, equidistant from each other, and cut at right angles by the parallels. The distances between these parallels increase as they approach the poles, in the same ratio as the distances between the meridians diminish on the surface of the earth. Hence, the distances in longi-

tude, measured upon each parallel, have, with respect to the corresponding distances in latitude, the same relation as upon the globe.

The following is the method by which this increase of latitude is determined, at least by a good approximation. It is demonstrated in the elements of Geometry, that the lengths of two arcs, of the same number of degrees, are to each other as their respective radii: Thus, in the case of the earth, supposing it spherical, and considering the radius as unity, we have

$$1^{\circ} \text{ of the parallel} : 1^{\circ} \text{ of the equator} :: \cos. \text{ lat. of the parallel} : 1 :: 1 : \secant. \text{ lat.} = L.$$

From which 1° of the meridian $= 1^{\circ}$ of the parallel $\times \sec. L.$, or, which is the same, $1'$ of the meridian $= 1'$ of the parallel $\times \sec. L.$

It follows from this that, by constantly making every minute of a degree on all the parallels equal to that on the equator, the interval between two consecutive parallels, or the difference of their latitude answering to a minute, is $= 1'$ of the parallel multiplied by the secant of the latitude. A greater difference will therefore be equal to the sum of the secants, taken for every minute, from the least latitude to the greatest. This method of calculating the meridional increase is not, however, strictly correct; since the arc of the meridian answering to one minute still differs from a right line. Hence, to attain greater accuracy, these arcs may be divided into smaller portions, as seconds; but, in this case, the calculations become very tedious. In practice, however, they are avoided, by having recourse to the Tables of *Increasing Latitude*, already calculated with the greatest care.

From the nature of this chart it is obvious that it should not be used for ascertaining either the extent of countries, on their configuration, for the regions at a distance from the equator are greatly enlarged; but these defects are of no importance in the geographical solution of the questions in navigation, for which it is principally designed.

57. Various other methods have been proposed or adopted for representing different portions of the earth's surface, according to the peculiar views or objects of the delineator; but any further elucidations on this subject are precluded by the brevity of this INTRODUCTION. It therefore only remains to offer a few brief remarks on the adaptation of the principal constructions to different purposes, and on the choice and arrangement of the details with which these outlines are to be filled up.

58. The object to be obtained by the construction of a map must determine both its kind and size. If it is to be a general map, embracing a large portion of the earth's surface, the size must be large, and the projection employed such as will introduce but little alteration into the configurations of the countries it contains. Otherwise, the multiplicity of objects it must comprehend, and the alteration they would undergo, would render the representation altogether inadequate to the purpose. If, for instance, it is intended to construct a planisphere to be used in the study of astronomical geography, the stereographic projection on the plane of the horizon is best adapted. If a map of the world, for the purposes of physical geography, be the object, the plane of the meridian is to be preferred, as this enables the geographer to present the Old and New Continents unbroken, the one being exhibited in the eastern, and the other in the western, hemisphere. In special maps, which are designed only to represent an empire, or a state, and consequently embrace only a comparatively small portion of the globe, the choice of the projection is less important. There are, however, advantages to be obtained, and inconveniences to be avoided, with respect to these; and for the explanation of which the remarks we have already made on the different kinds of construction will generally be sufficient. The principal aim in this choice should be to exhibit the most faithful picture of the regions to be represented, upon the largest scale which the size of the map will admit; and, consequently, to exclude every thing foreign to the object in view.

59. The impossibility of uniting in a general map, even of the largest dimensions, all the topographical details that a full representation of a province would contain, renders a choice of materials necessary, in filling up the outlines of such maps; but it is difficult to reduce this choice to general rules. Such maps are intended to exhibit the political limits of states, to mark the extent of their provinces, the situations of their principal places, their chains of mountains, their chief rivers, the sinuosities of their coasts in maritime countries, and all the other characteristic objects that constitute the portrait of the region they represent. Maps of this kind, which are purely elementary, admit of sub-divisions, not only into topographical, chorographical, &c. or more and less minute, but into military, nautical, scientific, historical, &c. as they are exclusively designed to promote the knowledge of these respective subjects. Maps intended for the general purposes of geography, are also of the elementary kind, and should only exhibit the most striking features of the regions they represent, arranged in their natural order, and delineated according to their relative proportions. To accomplish this, however, much scientific knowledge and extensive observation are indispensable.

60. Good astronomical observations deserve the first place in the estimation of the geographer who is desirous of giving accuracy to the outlines of his maps, as well as to the positions of the principal places they contain. The results of these will be more or less correct, according to the circumstances in which they were made, the care employed in making them, and in deducing the conclusions. As it is, therefore, by examining all these circumstances only, that the geographer can properly depend upon the faithfulness of his maps, the intimate connexion between the sister sciences of Astronomy and Geography is obvious.—The next source from which the geographer derives the most valuable materials of his labours, in the delineation of the terrestrial regions, is from that kind of trigonometrical surveys usually denominated geodesic operations, the nature of which has been explained in the former part of this chapter. When a number of the principal points of a map are fixed by either of these methods, the other objects which it embraces are to be introduced in their relative positions by a comparison of their local circumstances in reference to those points already determined. The most accurate maps are therefore formed from a combination of actual surveys. This is accomplished in the following manner.

To combine separate plans or surveys into one, it is necessary that they should have at least two points in common; or that a line in the one may be applied to a line of the same denomination in the other. Then, having drawn this line, or fixed these two common points on the paper on which the map is to be drawn, all the other objects are to be introduced in their relative positions by the construction of triangles, equal or similar to those on the original plan. When the map required is on a less scale than those which contain the materials, the sides of these triangles or other figures must be reduced in the same proportion. If the meridian, either true or magnetic, be drawn on the plans, this will facilitate the means of fixing their relative positions on the map, in the construction of which they are to be employed.

61. One of the best methods of reducing materials of this kind, is that of dividing the respective papers into small squares or rectangles, by lines which are parallel to each other and perpendicular to the line common to the two sheets that are to be used. Then to introduce into the one all the requisite objects in the relative positions in which they are found in the other. *M. Lacroix*, in his *Introduction à la Géographie Mathématique et Critique*, gives the following representation of this operation.

The sheets ABCD, EFGH (*figs. 34 and 35.*) having the right lines CD and EF common, are

divided into squares, the sides of which are parallel and perpendicular to these lines. The reduced plan *abfe* is also divided in the same manner, with respect to the line *cd*, which is supposed to be common to the two figures, but the sides of the squares in the reduced plan are only halves of those in the originals, so that the objects in these last are reduced to half their dimensions when inserted in the plan *abfe*, and the space each occupies in the latter is only one-fourth of that it filled in the former. To copy the design contained in each of the original squares of the sheets ABCD, EFGH, into the corresponding square of the reduced plan *abfe*, the delineation is either made by the eye, or the corresponding squares are numbered, and the principal objects they contain laid down by any more accurate method.

When a series of topographical maps are thus completed, they may be united, by the same means, in one or more of a general nature; which are sometimes denominated chorographical maps. The meridians and parallels are frequently right lines in topographical plans; but in general maps, these may be made curvilinear, by adopting any of the regular projections, already explained, for the outlines of the intended map. When great precision is required, and the quadrilaterals given by the projection of the one map do not exactly correspond with the squares on the other, the errors that would arise from this circumstance may be avoided by laying down the principal points according to their latitude and longitude, from the contiguous meridian and parallel of the map.—The transition from the construction of chorographical to that of general, or geographical maps, is altogether analogous to that from topographical to chorographical, as it is accomplished by delineating the chief objects contained in the quadrilaterals of the one in the corresponding spaces of the other; taking only the principal objects, and reducing them to the size required.

62. This description of the method by which the outlines of a general Map are to be filled up, renders the utility of astronomical observations in fixing the positions of the principal points obvious. This method, however, is founded upon the supposition that the country or region which is to be represented on the map has already been surveyed, and plans taken from which the map is to be constructed. But as this is the case with only a very few of the countries which the general purposes of geography require to be delineated, recourse must be had to other sources of information. Among the most extensive of these resources, are itinerary measures, but these are often uncertain, and always present much difficulty in attaining the required accuracy, even when the local values of these measures are well known.

63. Astronomical observations, trigonometrical surveys, and itinerary distances, therefore, furnish the chief materials from which all original maps are constructed. The geographer, however, seldom possesses these three elements in sufficient perfection, to employ them alone in the construction of his maps, and he is, therefore, obliged to repeat, in some measure, what has been previously published on the subject. In selecting from these, critical knowledge, soundness of judgment, and laborious research, are requisite to accomplish the object, so as to render the result either useful to the public, or creditable to the author. The first thing to be done is to establish an agreement between the different measures and scales employed in the construction of the maps to be consulted. Maps which relate to the same regions must also be compared with each other, by means of the latitude and longitudes they assign to the same places. This method of comparison is the more convenient, as it readily admits of a reference to the different projections which have been employed in the construction of the maps compared. When a discordance is found to exist, the following points deserve attention in a critical inquiry after truth.

If, in different maps, the same point is to be placed in different latitudes and longitudes, these maps must be examined with respect to the positions they assign to other essential

points. The places most likely to have been fixed by astronomical data are the respective capitals of countries and provinces, the positions of the principal sea-ports, the mouths of rivers, the configurations of the coasts, the limits of territory, the chains of mountains, and the great roads. Such an examination shows in what they agree, and in what they differ, and enables us to determine which deserves the preference, as it relates to the use for which it is designed. As the latitudes of places are more easily determined than their longitudes, they are, in general, more correctly given by travellers, and more correctly laid down in maps. We have already observed, in the historical part of this INTRODUCTION, that the common defect of all ancient maps is a great excess in the distances of places in the direction of longitude ; and these errors generally increase as the places are more distant from the principal meridian to which the longitudes were referred. This was remarkably exemplified in the maps of Ptolemy, with respect to Alexandria, and other places on the shores of the Mediterranean, already pointed out. The maps of the seventeenth century are also subject to this defect, but otherwise contain many valuable materials.

64. This comparison, however, does not always supply the enlightened geographer with a decisive reason for preferring one of these situations to another ; and, consequently, leaves him only an application of the rules of arithmetic, in taking a mean of the different positions which the maps assign to the same place ; and then to introduce the results into his new map according to this reduction. As the distances between the principal places have often formed one of the elements in the construction of maps, it is essential to compare them together in this respect.

In this comparison two corresponding and well determined points should be chosen upon each map, the distance between which may serve as a standard of comparison for the rest. Having reduced them all to the same scale, and drawn a line on the paper to represent the distance of the two principal points, describe triangles upon that line, as a base, and with the other distances, as sides, then the vertices of these triangles will give the points required. When the distances are taken from two different maps, two positions of the same point are not unfrequently the result, and hence if they be joined by a right line, the middle of that line will be the mean position.

Three determinations give a triangle, in which the positions form the angular points. In this case the mean position, resulting from the three, is the centre of gravity of that triangle, which is at the intersection of two lines drawn from any two of the angles to the middle of the opposite sides. A greater number of points gives a polygon, the centre of gravity of which is easily determined by dividing it into triangles. When the mean distances of a point from two others given in position is thus fixed, the latitude and longitude of that point are easily found ; and this enables the geographer to introduce the place into his map, whatever may be its projection.

65. The mathematical elements of a map being thus determined, it still remains to introduce the historical, physical, and political delineations that are consonant to its extent and design. A few remarks on these topics are therefore necessary to complete this brief sketch of the subject. These delineations are accomplished by means of a small number of signs which are easily recognized, and are often explained on the margin of the maps in which they are employed ; and consequently their modifications are easily understood. The common representative of places is a small circle, the centre of which marks the position of the place. This is necessary to be observed ; for it is by taking the distance between this centre and the nearest parallel of latitude, in the direction of the next meridian, and then measuring this distance on the graduated meridian of the map, that the latitude of the place is found. For

example, if the distance between the centre of the circle which represents London, on a map of England, and the nearest parallel, be found to be $1^{\circ} 31'$; then as that is the parallel of 50° , and the city is situated on the north of it, we have $50^{\circ} + 1^{\circ} 31' = 51^{\circ} 31'$ for the latitude required.—Again, if the distance of Paris from the nearest parallel be taken in the same manner, and found to be $1^{\circ} 9' 46''$, then as that city is situated on the south of the same parallel, we have $50^{\circ} - 1^{\circ} 9' 46'' = 48^{\circ} 50' 14''$, for the required latitude. The longitude of places is also ascertained in the same manner, by taking the distance from the nearest meridian, in the direction of the parallel; which, being done for Paris, it will be found to be $2^{\circ} 20'$ east of the first meridian of England.

These operations, however, are only strictly correct when the meridians are straight, and parallel lines, and the parallels of latitude either right lines, or concentric circles. When this is not the case, a little more attention is required in determining the same quantities. The graduation on the edge of the map, being then oblique with respect to the meridians and parallels, the distances between the place and the nearest parallel or meridian, being taken as before, and referred to those graduations, will not give the correct difference of latitude or longitude, answering to these respective distances. It therefore becomes necessary, either to find the proportion between these distances and those of the parallels and meridians on the map; or to draw a parallel and meridian through the place, and produce them to the edge of the map; and then their intersections with the margin will determine the quantities required. The conical projection presents great facilities with respect to this operation; as the meridians are straight lines, and the parallels concentric circles; and therefore the nearest distance of the place from the parallel, measured on the corresponding margin of the map, will give correctly the quantities sought.

When the distance of two places is taken and referred to the scale of the map, the result is always too little, unless the roads between them be marked on the map, and the parts between the different bendings taken separately. These roads are sometimes indicated by two parallel lines, either plain or dotted, though frequently by only one plain line. Rivers are usually represented by undulating lines; and both banks shown when the breadth is sufficient to be measured from the scale, and then two lines are used instead of one. This is often the case near their mouths, where the estuary becomes greatly enlarged. Canals are commonly denoted so as to distinguish them from natural rivers; which is done by representing them by lines devoid of inflections. The coasts are expressed by a single line, accompanied by shading towards the water, which seems to represent the undulations of the waves as they approach the shore; but, in nautical charts, the shading is towards the land, and the abruptness towards the sea appears to indicate the steepness of the cliffs. The boundaries of kingdoms, states, and provinces, are usually marked by dotted lines; the size, shape, and distance of the dots being varied to agree with the circumstances intended to be expressed. To make those divisions still more conspicuous, different colours are frequently employed to relieve the monotony of the engraving, and assist the eye in distinguishing the limits with greater facility. In some instances the colour is laid over the whole surface of the country or province; in others, only along its margin. The former has the advantage of rendering the extent and shape of the country more obvious, provided it be so transparent as not to obscure the names and other characteristic lineaments of the map.

66. In estimating the extent of a country or kingdom, the two following cases must be distinguished from each other. When the projection represents equal regions on the surface of the earth by equal spaces on the map, their areas are calculated, like those of plane figures, by inscribing rectangles or triangles in the spaces included within their boundaries; or, by reducing them, by approximation to the case of regular figures. In the other instance, when

equal regions on the globe are not represented by equal spaces on the map, the superficies must be estimated by means of the quadrilaterals formed by the meridians and parallels, as shown in Art 35.

67. It is not sufficient that maps should represent the absolute and relative situation of places, the bearings and connexions of kingdoms, the extent, divisions, and boundaries of countries and provinces, with the other circumstances embraced by mathematical and political geography. They should also exhibit the face of the country, by showing the form and variations of the terrestrial surface. The principal chains, or groups, of mountains, the insulated summits, the lakes, and other appearances which diversify that surface, should also be expressed. Various methods of denoting the elevations have been devised. *Buache* adopted the method of sections or profiles, drawn according to given lines, to represent the inequalities of the terrestrial surface. For sections of this kind, through the east and west sides of Europe, see the GENERAL VIEW of that continent, in the subsequent pages. *Dussain Triel* also devised a method, equally ingenious and satisfactory, of representing the places of the same elevation geometrically. This consists in tracing lines on the map through all the points of the same altitude above the level of the sea, and which would evidently become coasts, could the sea by any means be elevated to the altitudes at which these lines are traced, in the same manner as the lines, which join the equal soundings in nautical charts, would become banks if the ocean were to sink to that level. A more minute delineation of these, as well as of other methods which have been devised for the same purpose, would be foreign to the plan of this introductory sketch; and we must, therefore, renounce them for the sake of prosecuting the more important inquiries relative to the physical circumstances of the globe.

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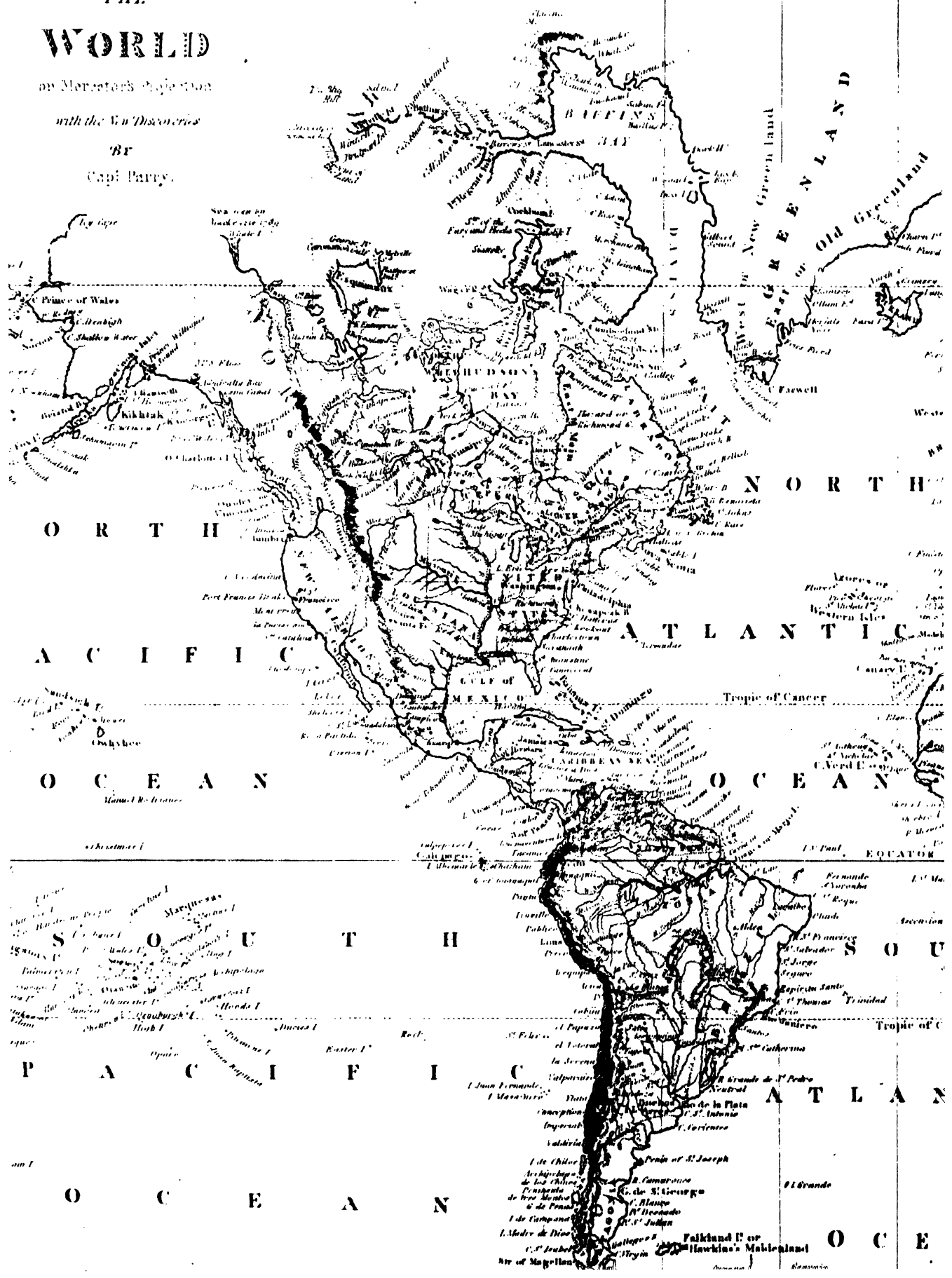
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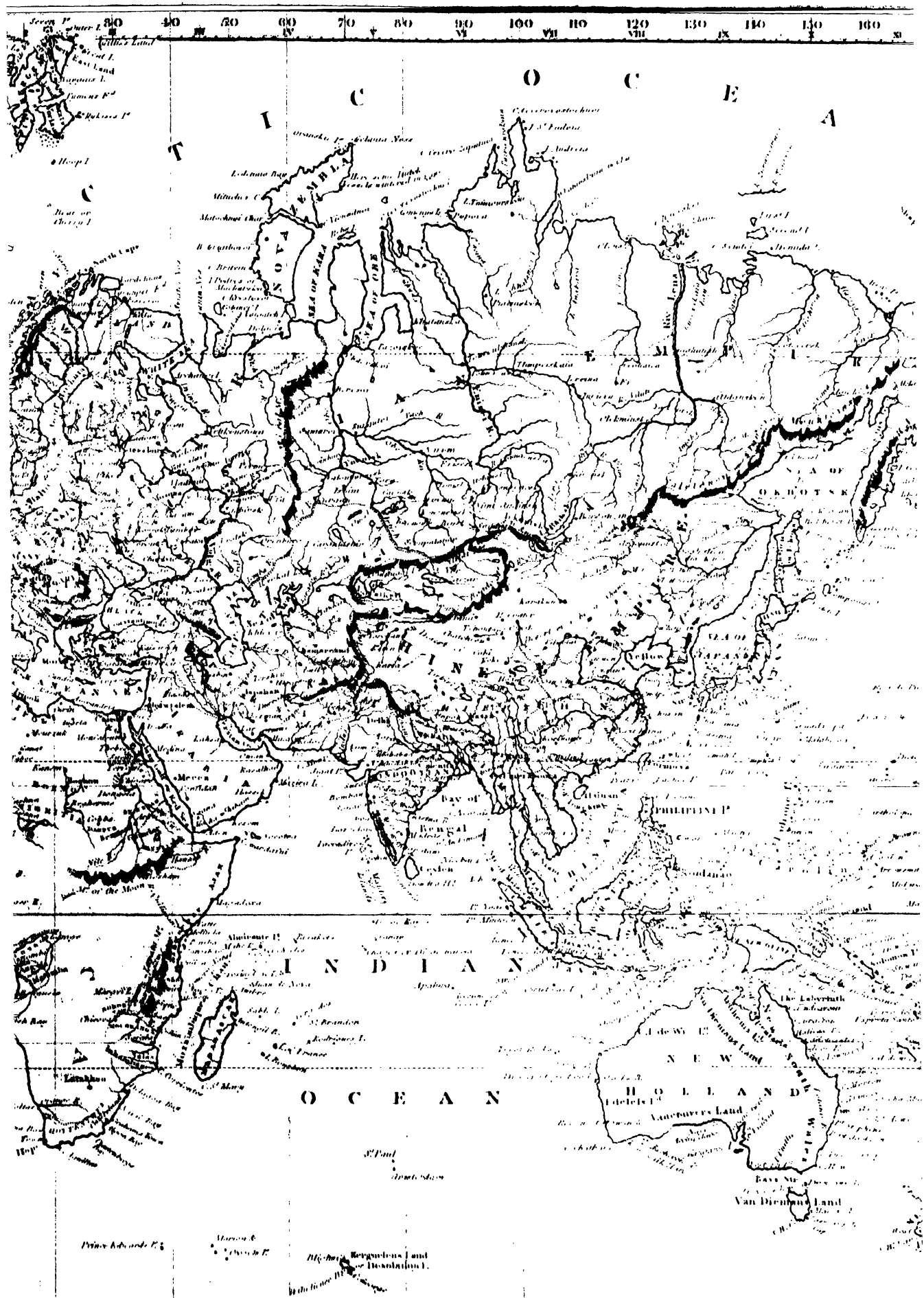
on Mercator's projection

with the New Discoveries

By

Capt. Parry.





CHAPTER III.

PHYSICAL GEOGRAPHY.

Section I.

Delineation of the Natural Features of the Globe.

A SLIGHT survey of the earth's surface, as represented on a globe or map, immediately shows its division into *Land* and *Water*; the latter occupying the greater extent, and the former rising in all imaginable varieties above its surface. The land is at once the abode of man and the principal source of human sustenance. Here Nature seems to have disdained all rule, both with respect to the figure and arrangement of its various parts. Two vast masses, indeed, present themselves, in the *Old* and *New* Continents; but even these appear as if shattered by some great convulsion of nature, and the fragments scattered in a thousand surrounding islands. In this view, the land consists only of the higher parts of the earth's surface, which rise more or less above the level of the circumambient ocean. It forms, therefore, a series of islands, varying in magnitude from the most colossal dimensions, to the almost imperceptible rock, the pointed summit of which scarcely emerges from the deep.

The appellation of *Continent* has been bestowed upon some of the larger portions of the land. The *Old Continent* contains the three grand divisions of *Europe*, *Asia*, and *Africa*, each of which has been dignified with the name of continent, in opposition to islands, and other portions of less extent. Europe and Asia are joined by a long and arbitrary line of common boundary; but Africa is wholly detached from Europe, and only connected with Asia by the narrow neck of land which divides the Mediterranean from the Red Sea. The *New Continent* comprises *America*, which is divided into two distinct peninsular parts, by the proximity of the opposite oceans in the northern part of the torrid zone. *New Holland* is a vast mass of land, south-east of Asia, and has been thought, by some geographers, to deserve the name of a continent. This, with its surrounding groups of smaller islands, now forms one of the distinct geographical divisions of the globe, under the appellation of *Australasia*. The numerous islands which diversify and adorn that wide expanse of ocean which separates the eastern shores of Asia from the western confines of America, constitute another division, under the title of *Polynesia*.

Many parts, both of the land and water, mutually indent each other, and render their outlines very irregular. Hence arise the various denominations of Inland or Mediterranean Seas, Gulfs, and Bays; Peninsulas, Promontories, and Capes; with other appellations of less frequent occurrence. The distribution of the land and water on the surface of the globe is extremely irregular. One hemisphere contains more land than water, while the other is wholly covered with water, except the space occupied by a few islands and projecting parts of the continents. This is the case when London and our antipodes are taken as the poles of the two

hemispheres. If the distribution of land be considered with respect to the two hemispheres formed by the equator and the zones, into which they are divided, the quantities will be found to be nearly in the following proportions, where the area of each zone respectively is taken for *unity*.

In the northern part of the Torrid zone	·297
In the northern Temperate zone	·559
In the northern Frigid zone	·400

The same estimate for the southern hemisphere, gives,

In the southern part of the Torrid zone	·312
In the southern Temperate zone	·075
In the southern Frigid zone	·000

By adding the numbers of the respective zones together, and dividing each sum by 2, we shall obtain the proportion of land and water in each.

The whole of the Torrid zone being 1, the land is	·3045
Two Temperate zones being 1, the land is	·317
Two Frigid zones being 1, the land is	·200

From these calculations, and the ratio of the zones already given at page lxii, it is easy to ascertain the proportional quantities of land and water in each, when the whole surface of the earth is represented by *unity*. The respective numbers for the quantities of land are, for the

Whole of the Torrid zone	·121191
The two Temperate zones	·164523
The two Frigid zones	·0166
The total proportion of land	·302314

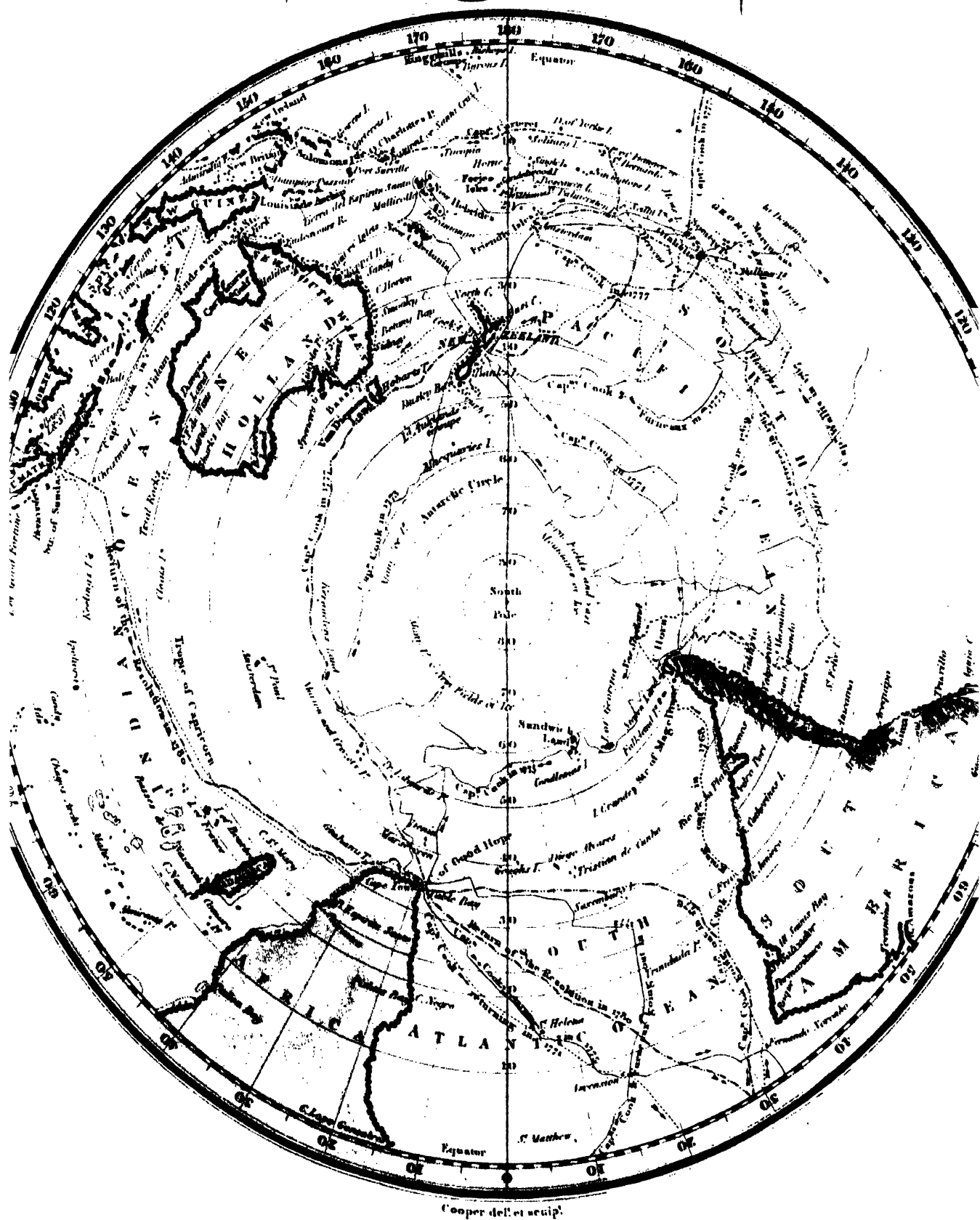
The land, therefore, occupies rather more than *three-tenths* of the whole surface of the globe. Hence, if the above number be multiplied by 16,500,000 square leagues, which has been already given as the actual area of this surface, we shall have 4,988,181 square leagues for the land; and, consequently, 11,511,819 for the whole surface of the ocean.

The great preponderance of land in the northern hemisphere over that in the southern, is evident from this computation. The former contains more than three times the quantity in the latter. The principal mass of both continents is on the north side of the equator. *Two-thirds*, even of the habitable globe, is situated on the north of the tropic of Cancer, while scarcely *one-tenth* of it is on the south of the tropic of Capricorn; for, not only the continents, but all the large islands, except a part of New Holland, are on the north of this circle. These facts induced many of the Geographers and Naturalists of the eighteenth century to conclude, that a large counterbalancing continent existed towards the south pole, till the voyages of Cook dissipated the idea. No regularity can be discovered in this arrangement; and the only appearance of symmetry is, that nearly all the great Promontories, both in the Old and New World, are directed towards the south. The peninsulas of *Jutland*, and *Yucatan* alone deserve to be considered as exceptions; but both these are alluvial, and they are much less bold and prominent than those which have a contrary direction. The chief promontories in the Old World that extend towards the south are Scandinavia, Spain, and Portugal, Italy, Greece, Africa, Arabia, Hindustan, Malacca, Cambodia, Corea, and Kamtschatka; with California, Alaska, Greenland, Florida, and the whole of South America, in the

[illegible]

Southern Hemisphere

(corrected from the latest
Voyages)



New World. These, and many other intersections of the outlines and coasts, will require a more particular attention in the description of the continents to which they belong.

The general direction of the land in the two continents is entirely different from that of the promontories. In America, this direction is from pole to pole. In the Old World, if Africa be included, it is parallel to the equator; but, excluding that continent, the longest line that can be drawn is from the Cape of Good Hope to the north-eastern part of Asia. The length of this line, which passes as much as possible over the land, is 2960 leagues. It makes an angle of 65° with the equator, and divides the continent into nearly equal parts. A similar line drawn on the New continent, from the mouth of the River la Plata to the northern part of Beering's strait, would be about 2640 leagues, and make an angle of 60° with the equator. But, instead of bisecting the continent, it would leave the greater part on the north-east of it.

The isthmus of Suez, and that of Darien, present a degree of resemblance between the two continents, so far as they divide each into two parts, but the former is composed of sand, and the latter of stupendous masses of rock. The Old and New Worlds are singularly different in their general outlines. From Beering's strait to the mouth of the Red Sea, on the one hand, and to the Strait of Gibraltar, on the other, the Old continent is almost equally intersected by Bays, Gulfs, and Mediterranean Seas. Africa, alone, is nearly destitute of these beneficial invasions of the ocean. The New continent, on the contrary, has only the gulf of California, which forms a large opening on the western coast, though it extends through more than 120 degrees of latitude. The opposite coast is intersected by numerous Bays and Gulfs; and when this series is interrupted, large rivers add to the variety and utility of these deep inlets.

Irregularities similar to those that diversify the outlines of the land also characterize its surface, and mould it into all possible varieties of inclination, from the horizontal plain to the perpendicular rock. For the sake of generalizing these almost infinite diversities, they have been classed under two heads, and denominated *High Lands* and *Low Lands*. Professor Jameson, in his system of Geognosy, has adopted this division as the basis of his survey of the globe. The following is the delineation he gives of the surface of Europe.

"In Europe we find but two high lands, and one low land. The one is the great European or Southern, the other is the Scandinavian or Northern. The one has its middle point in Switzerland, in the Tyrol, and in the Alps of Savoy. Hence it passes through three-fourths of France, traverses the whole of Spain and Portugal, includes nearly two-thirds of Germany, passes through the greater part of Italy, and also part of Hungary and Turkey, and terminates on the borders of the Black Sea. The course of this high land determines that of the great low land. Saxony lies nearly on the border of this low-land or plain. It passes through the north part of Saxony to the east or Baltic Sea. It also passes by the foot of the rocky mountains through the upper part of Westphalia, and further through the whole of Holland, the Netherlands, and a part of France; it even reaches the east coast of this island. It extends very considerably towards the north, including in its course Prussia, Poland, and nearly all Russia in Europe, and reaches to the Uralian mountains, including the greater part of Moldavia.

"The other high land rises in Norway and Sweden, comprehends a portion of Russia, and extends with some interruption to the Uralian mountains."

Mr. Jameson has not extended his delineation to the other continents; but the following brief sketch points out the more striking features. The most remarkable range of elevated land on the globe, is that immense chain of mountains which stretches from Cape Horn to the shores of Beering's strait; and runs nearly parallel to the western shores of America, but much nearer to the Pacific than to the Atlantic ocean. Through a great part of South America this range is of the most stupendous description. Its highest point is the towering

Chimborazo, near the equator, when it declines in elevation to the southern extremity of the continent on the one hand, and to the straits of Panama, on the other. The lowest part of this isthmus is little more than one-twentieth of the highest part of the chain, but on advancing into Mexico, the chain soon assumes its lofty and volcanic character. The highest peaks of North America are little inferior to those in the southern part of the range. Towards the north-west, the elevations again decline to the height of five or six thousand feet, till near its northern extremity towers the majestic Mount St. Elias, the lofty rival of the Andes. Towards the eastern side of the continent, another chain runs almost parallel to the Atlantic; and with this the mountains stretching behind Brazil seem to correspond. On the back of the United States, this range is called the Allegany and Appalachian mountains. These, with the western ridge, divide North-America into two high, and three low land, districts. The two which are between the mountains and the ocean are the narrowest, particularly that which borders on the Pacific. The third, which occupies the space between these chains, is of immense extent. It is watered by the noble Mississippi and its tributary streams, and partially occupied by the sea-like lakes of the interior. In South America, a similar arrangement takes place. The sloping plain between the Andes and the Pacific ocean is narrow; while that which borders on the Atlantic stretches its wide expanse far into the country. The low land of the central regions is interrupted by a ridge from the Andes which separates the waters of the majestic Marañon from those of the La Plata. From this latitude, it expands to the north-east, and gives egress, on the one side, to the largest river on the globe, and stretches far to the south, on the other, till its collected waters are poured into the ocean by the vast estuary of the La Plata.

On passing Beering's strait, and entering the north-east part of Asia, the mountains of Kamtschatka soon rise into view, as the commencement of that great chain which, under the names of Stanovay, Yablona, and Altaian mountains, stretches towards the south-west till it approach the Sea of Aral. On the south-east of this sea, it meets another chain which springs from the borders of China, and passes the north of India. This stupendous range, under the names of the Himalaya, and Hindu Coosh, include some of the loftiest summits on the globe. After the union of these chains they traverse the northern parts of Persia, but much diminished in height. They rise again in Armenia, Asia Minor, and in the Caucasian Chain, on the east of the Black Sea. These high lands divide Asia into four distinct parts, the first of which includes a portion of China, India beyond the Ganges, with the maritime Provinces of Hindustan and Persia: thus embracing all the extensive region between the south-eastern chain and the Indian ocean. The second includes Arabia, and the parts which the united chain cuts off on the south-west. The third is comprised between the Altaian mountains and the northern ocean, and contains the wide and dreary plains of Siberia. The remaining portion, which is included between the Himalaya and the Altaian mountains, and comprehends a great part of the Chinese empire, Tibet, Bukharia, and the other regions of central Asia, cannot with so much propriety be denominated a Low land. It is rather a vast elevated plain, supported on the north and south by the great mountain ramparts already mentioned, and from which the land declines each way to the ocean. This central region is, therefore, more properly an elevated table land, than classed among the lower tracts of the globe. These elevated plains, the French denominate *Plateaux*; and, as there is no English word which expresses the same idea with equal force and perspicuity, we shall, in the subsequent pages, adopt it.

In Africa, the physical division of the surface is less certain. The mountains of Atlas stretch across the northern part, at a short distance from the shores of the Mediterranean, and

tower to a great height near the Atlantic, but are lost in the plains before they reach the eastern coast. From this a vast level region stretches to the south, and is partially occupied by the great sandy deserts of Sahara. South of this level region, on each coast, two chains of mountains arise, and spread towards the interior, where they are supposed to unite and form a continuous range across the great body of that continent. These stretch from a little south of Cape Verd, on the one hand, to the entrance of the Red Sea on the other. Another range appears to exist, under similar circumstances, between 10° and 20° of south latitude, as these are elevated ridges behind Congo, on the one coast, and Monomopata, on the other. Mountains also rise still further south. A chain backs the Colony of the Cape; and another seems to defend that southern promontory against the encroachments of the vast ocean to which it is exposed. But the limits between high and low land in Africa, are far from being well defined, as much of the interior is yet unknown.

Each of these two great parts of the land evidently admits of subdivision. The high land is either composed of detached peaks, or large tracts of level country. In the one case, it forms serrated ridges or groups of summits; in the other, extensive *plateaux*. Of this last description the elevated plains of Mexico, of Peru, and of the interior of Asia, form striking examples. The *low* land of the globe admits of an equally obvious subdivision into *Valles* and *Plains*, each of which deserves a brief description.

Mountains are generally divided into two classes. The first contains the most rugged, elevated, and extensive chains. The second is formed of such as have not only a less height, but more gentle and regular declivities. The whole appearance of these exhibit less of the sublime but more of the soft and gentle features of Nature. Professor Jameson asserts, that the characters of mountains depend solely upon the species of rocks of which they are composed. Granite, when exposed, always presents that rugged appearance which is characterized by steep cliffs, vast precipices, and lofty summits. Gneiss forms mountains of a much less rugged character; and those that are composed of slate are commonly destitute of all precipitous appearances. *Humboldt* has pointed out a striking difference between the formation of the mountains in the Old and New Worlds. Mount Blanc and others of the higher Alps rear their peaks of granite above the clouds. But, in America, "the newest floetz trap, or whinstone, which, in Europe, appears only in low mountains, or at the foot of those of great magnitude, covers the mightiest heights of the Andes. Chimborazo and Antisana are crowned by vast walls of porphyry, rising to the height of 6000 or 7000 feet; while basalt, which, in our continent, has never been observed higher than 4000 feet, is, on the pinnacle of Pichincha, seen rearing aloft its crested steeps, like towers amid the sky. Other secondary formations, as limestone, with its accompaniment of petrified shells and coal, are also found at greater heights in the *New* than in the *Old* world; though the disproportion is not so remarkable in these." Caves, defiles, and passes, likewise form interesting circumstances in the structure of mountains; but their local nature ranks them among the subjects which belong to the particular description of countries.

Of all the phenomena to which the mountainous regions of the globe are subject, those of Volcanoes are the most characteristic, awful, and sublime. These terrible convulsions of Nature are not common to all mountains, but have hitherto been restricted to certain regions, where they occur at irregular intervals; as greater or less periods are required for the preparation of those immense masses of ignited materials, and rivers of liquid fire, which generally accompany their tremendous eruptions. Such are the devastations sometimes occasioned by these terrific phenomena, that whole countries are often darkened by the smoke, and covered with the ashes and stones they eject. Even cities and towns are frequently buried

beneath the streams of burning lava which flow from the craters. Herculaneum, Pompeii, and Catania, are examples. When these phenomena take place beneath the sea, the ejected substances sometimes rise above the surface of the waters, and form rocks and islands. Instances of this are presented in the Azores and numerous other places.

The situation of Volcanoes forms a striking difference between the Old and the New continent. In the former, they are chiefly found in the islands and peninsular extremities; but in the latter they are diffused through the very heart of the country. The principal chains of Europe, Asia, and Africa, are unshaken by these convulsions of Nature; but in America many of the most stupendous ranges present almost one continued blaze of volcanic flames. Nor are the substances ejected from both these series of volcanoes always the same. Besides the common lava and stones, the transatlantic ones emit scorified clay, carbon, sulphur, and water, accompanied, in some particular instances, by great numbers of boiled fishes. Volcanoes, however, are not wholly confined to the continental parts in the one case, nor to the insular regions in the other; as is evident from the following statement given by Professor Jameson: viz.

Continent of Europe.....	1	Asiatic Islands.....	58
European Islands	12	Continent of America....	97
Continental Asia	8	American Islands.....	19

The number of Volcanoes, according to this estimate, is, 195. The only one on the continent of Europe is Vesuvius; those in the islands are chiefly in Iceland, Sicily, and Stromboli. The continental volcanoes of Asia are on the peninsula of Kamtschatka, while many of the islands between that point and Sumatra are subject to these dreadful visitations of Nature. No volcano has yet been discovered on the continent of Africa; but most of its groups of islands are distinguished by such phenomena.

These eruptions are often accompanied by EARTHQUAKES, though the tremor is seldom so great in the immediate vicinity of the volcano as at a greater distance. The effects of earthquakes are often so tremendous, that cities are overthrown, and countries laid waste. In 1783, Calabria was desolated, while Lisbon, Messina, Lima, Caraccas, and various other places, have repeatedly suffered from the same cause.

The VALES, or river districts, which form one of the divisions of the low land, (and which the French call *basins*) are hollow tracts watered by some considerable river, and bounded on each side by secondary ranges of mountains. In this sense, the vale or basin includes the whole region watered by the tributary streams of the large river; and consequently embraces a number of collateral vallies. These vales usually comprise the richest and most beautiful regions of the earth, and abound with the treasures of the vegetable kingdom. The plains which form the other sub-division of the low land, are those extensive level tracts which are not diversified with hills or mountains, and are often destitute of large rivers. In these cases, the want of moisture, especially in the torrid climates, causes them to become mere barren deserts, equally inimical to the residence of man, and the production of any valuable vegetable. Examples of these occur in the interior of Africa, in the central parts of Persia, in Arabia, and other places. These plains are often denominated *Steppes* in Europe and Asia, as the great steppe which stretches on the north of mount Caucasus from the shores of the Black Sea to those of the Caspian. Similar plains form *Savannas*, in North America; but are denominated *Ilanos* and *Pampas*, in the southern part of the new continent.

Another distinguishing feature in the terrestrial surface is the diversity in the direction of the almost infinite number of *declivities* of which that surface is composed. These are marked by the rivers; for it is the property of water not only to descend to the lowest regions, but to

follow the quickest descent in proceeding thither. Hence water-courses are the characteristic marks of these declivities, and afford greater facility in ascertaining their directions than any other circumstance.. The rains that fall on the mountains are collected into streams which descend down their sides, and, uniting with the springs that rise from their bosoms, form rivulets which wind their courses down the centres of still more extensive hollows in the flanks. A further union of these brings the waters of more extensive regions yet nearer to the common focus; and the river itself becomes tributary to the general stock, by rolling its liquid treasures into the ocean. If, therefore, a line be traced on the globe without crossing any considerable stream, it will indicate the highest regions of the terrestrial surface, and follow the great ridges already pointed out. These, with the declivities indicated by the courses of rivers, form the materials for a *natural* division of the interior of Continents.

The *Declivities* admit of arrangement into two classes: those which descend towards the exterior, and those which face the interior. A careful examination will readily show several large rivers that neither flow into the ocean, nor into any sea connected with it. These, therefore, are either absorbed by the sands of the interior, or fall into large basins which are completely insulated. Such are the Caspian Sea, and the lake of Aral. Considering that part of the old continent only which comprehends Europe and Asia, the declivities that descend towards the ocean may be arranged according to the four cardinal points; for it is nearly in those directions that the principal rivers enter the ocean. The first extends from the Strait of Gibraltar to the North Cape, and is divided into two parts by the entrance to the Baltic Sea. This is the great western declivity. The northern declivity is marked by those rivers which enter the Arctic Ocean, between the North Cape and Beering's Strait. The eastern comprehends all the regions between Beering's Strait and the entrance of the Gulf of Tonquin. From this point to the Strait of Babelmandel, the ocean receives the rivers of the grand southern declivity. The declivities of the second class are those which face the interior, or Mediterranean Seas, and which admit of the following enumeration. First, that of which the rivers fall into the Mediterranean, or adjacent seas. 2. That of which the waters descend to the Baltic and its Gulfs. 3. That which faces the Caspian Sea. 4. That which surrounds the Sea of Aral.

By tracing the most elevated edges of these declivities, in the manner above described, it will readily be perceived that a vast space exists in the central part of Asia, where but few rivers are found, and these are either lost in the lakes, or absorbed by the sands of the interior. From the confines of this region rivers flow in all directions. It is, therefore, the most elevated district, and one of the most remarkable features of the *Old* world. The surface of Europe and Asia is divided, therefore, by Nature, into *five* great regions; viz. the *four* exterior declivities; the *four* which form the basins of the interior seas; and the great nucleus, which constitutes the central elevation. A more particular view of these regions, with the rivers and other circumstances connected with their physical constitution, will form an appropriate part of the general delineation of each continent.

A similar view may be taken of Africa, but with that limitation which the imperfection of our knowledge respecting its interior necessarily imposes. The first glance, however, shows three distinct exterior declivities. The *northern*, towards the Mediterranean; the *western*, facing the Atlantic; and the *eastern*, inclining to the Indian, or Ethiopic ocean. To those may be added the *southern*, which commences at the Cape of Good Hope, and stretches about ten degrees towards the north-east. It is of much less extent than any of the preceding, but sufficiently marked, by the number and magnitude of its rivers, to be considered as distinct from them all. In reference to the exterior of this continent, many facts have been collected

which concur in establishing the belief of a large receptacle, denominated the Lake or Sea of *Soudan* or *Wangara*. The situation assigned to this interior sea is between the 10th and 15th degree of north latitude, with 15° and 20° of east longitude. It is there supposed to occupy the bottom of the great interior basin of northern Africa, as the *Joliba*, or *Niger*, the largest and best-known river of those regions, flows in that direction. The interior of Southern Africa is yet wholly unexplored.

The declivities of North America may be reduced to the following. 1. Towards the Atlantic Ocean, from the entrance of Hudson's Bay to the eastern extremity of Florida. 2. From this point round the Gulf of Mexico and the Caribbean Sea, to the isthmus of Darien. This is assumed to terminate here in order to preserve the division of the continent into its two distinct peninsulas. 3. The western declivities which embrace all the coast from this isthmus to Beering's Strait. 4. That which inclines towards the Arctic ocean, including all the northern regions of the American continent. The 5th is marked by the rivers that fall into Hudson's Bay and the adjacent Gulfs. 6. That which faces the great lakes of the interior. Baffin's Bay and Greenland are too little known to be classed in any division of this kind.

South America does not contain any interior sea; and, consequently, all its declivities are of the exterior kind. The western, includes the whole regions that border upon the Pacific ocean. The north-eastern, embraces those parts of the continent which extend from mountains that border on the isthmus to the most eastern point of Brazil. The south-eastern stretches from that point to the southern extremity. The directions of the River *la Plata* and the southern branches of the immense *Maranon*, prove that a great part of the interior of that continent inclines either to the north or south. The elevated region which separates these waters forms a curve inclining towards the south, from about 15° of latitude at its eastern, to 20° of its western extremity.

From the preceding delineation it appears that the whole surface of the land is composed of four distinct regions, viz.

1. Those parts which are occupied by elevated mountains, separated from each other by deep vallies, and presenting only plateaux and other small plains.
2. Extensive plains covered only with herbaceous vegetables. These are Steppes, Savannas, Pampas, &c.
3. Sandy deserts; which are very extensive in Africa, Arabia, and various parts of Asia.
4. Those regions which are intersected by hills and watered by numerous rivers. In these rocks and sands bear only a small proportion to the whole surface. They constitute that part of it which is best adapted for the residence of man, as being capable of supplying all the wants which civilization requires.

To complete this brief sketch of the solid part of the globe, some account of its internal waters is necessary, for they not only help to fertilize the soil, but are essential to the comfort and convenience of life. The chief of these are the rivers which originate in the elevated regions and descend their declivities, uniting their liquid treasures as they roll their ample floods across the plains, and mingle them with the ocean. The origin of the largest rivers may usually be traced to a small rill, descending nearly from the summit of some mountainous chain. The extent of the river is often in proportion to the height of its source, and always bears a relation to the surface of the basin of which it receives the tributary streams. The *Maranon*, which is the largest river in the world, flows from the *Andes*, the most stupendous chain. The *Ganges* descends from the high mountains South of *Tibet*. The *Rhine*, the *Rhone*, and some others of the largest rivers of Europe, originate in the higher *Alps*. There are several places in both hemispheres from which rivers flow into different seas. Such are

Switzerland, Tartary, Little Tibet, and Quito. Large rivers, therefore, frequently originate near the summit, and flow down the opposite sides of the same mountain or chain, which gave rise to the erroneous idea of different rivers springing from the same source. The channels of rivers usually increase in breadth from their sources to their terminations, except where they flow between mountains or rocks, and are restricted by these ramparts to a more confined and rapid course. The rapidity with which a river flows depends upon the quantity of water, the width of the channel, and the declivity of its bed; for as the breadth of the channel augments with the level nature of the country through which it passes, its current is the most sluggish and tranquil in the plains.

By examining the principal rivers in the globe, we readily perceive that many of those which originate in the tropical regions are distinguished by periodical overflowings of their banks, and the consequent inundation of the adjacent country. The only instance of this kind that was known to the ancients was that of the Nile, and as they were unacquainted with the cause, they classed it among the mysteries of Nature. But subsequent discoveries have not only shown that this periodical increase is common to many other rivers, but that it arises from the rains which fall on the mountains from which they descend. The inundations of the Nile, for instance, which are, perhaps, the most regular, the most complete, and the most extensive of any yet known, are caused by the periodical rains which descend on the mountains in the interior of Africa, where it originates. These rains commence in April, and the river begins to overflow in June, and to return within its banks in October. The Indus, the Ganges, and the great rivers of Siam, in Asia, the Senegal, in Africa, with the Maranon and Oronoco, in America, are all more or less subject to these inundations.

Various causes operate in rendering the declivity in the bed of the same river unequal; but the most remarkable circumstances of this kind are those which occasion waterfalls and cataracts. Some of the more celebrated of these natural phenomena will be described in the subsequent pages.

Many of the largest rivers on the globe discharge the whole of their waters into the final receptacle by one outlet; others divide into several branches. This circumstance depends upon the nature of the country through which they flow. When the rapidity of the current is preserved in the latter part of the course, a single outlet is the general consequence; but when its sluggish waters almost stagnate in a level country, every interposing obstacle partially diverts its course, and a variety of channels are produced. This diminished velocity of the waters also allows them to deposit the earthy particles which the rapidity of the current had brought down from the more elevated parts of its course; and thus to form alluvial tracts which are found near the mouths of many of the largest rivers. One of the most decisive examples of this kind is presented by the Egyptian *Delta*. Those rivers which are subject to inundations, frequently divide into separate branches before they arrive at the sea; for these superfluous waters first find outlets for themselves, which are afterwards rendered permanent from the deepening of the bed by each succeeding flood. The Nile, the Ganges, the Oronoco, with the Volga, the Rhine, and various others, are illustrations of these remarks.

Though the sea is the great receptacle of the rivers, yet some of them are intercepted in their progress to its shores; and thus form LAKES. When the bottom of the basin in which the lake is formed is sufficiently extensive to allow a quantity of water equal to that which it receives to be expended in absorption, and exhausted by evaporation, it becomes the final receptacle of all the waters that flow into it; but when this is not the case, the extra waters force a passage over the lower parts, and either reach the sea or some other intervening basin. In some of the sandy and sun-parched plains of the torrid zone, the rivers divide into different branches,

and are wholly exhausted in supporting the increased evaporation and absorption caused by the heat of the climate.

The following list shows the relative extent of some of the principal rivers on the globe, taking the length of Thames for unity. As the real extent of this river is about forty-five leagues, the length of any of the other rivers will be found by multiplying the subsequent numbers by forty-five : viz.

Rivers of Europe.

Thames.....	1	Don	5
Rhone	1 $\frac{3}{4}$	Rhine	5 $\frac{1}{4}$
Seine	2 $\frac{1}{2}$	Danube.....	7
Tagus	3	Volga	9 $\frac{1}{2}$

Rivers of Asia.

Indus	5 $\frac{1}{2}$	Oby	10 $\frac{1}{2}$
Euphrates	8 $\frac{1}{2}$	Amur	11
Ganges	9 $\frac{1}{2}$	Lena	11 $\frac{1}{2}$
Burrampooter	9 $\frac{1}{2}$	Hoang-ho.....	13 $\frac{1}{2}$
Irradvady (Ava)	9 $\frac{1}{2}$	Yang-tse-kiang	15 $\frac{1}{2}$
Jenisey	10		

Rivers of Africa.

Gambia	4 $\frac{1}{3}$	Nile	12 $\frac{1}{2}$
Senegal.....	5 $\frac{1}{2}$		

Rivers of America.

St. Lawrence	5	Mackenzie's River	10 $\frac{1}{2}$
Oronoco	8	Rio de la Plata	12
Mississippi	8	Maranon	15 $\frac{3}{4}$
Rio-del-Norte	8 $\frac{3}{4}$		

A similar division may, with propriety, be adopted in reference to the LAKES, as well as for some of the other natural features of the globe. They are chiefly two distinct kinds; those which both receive and discharge currents of water; and those which only receive them without any visible outlet by which they are discharged. There are also lakes which discharge without apparently receiving supplies, but these are generally of a much smaller description. The lakes belonging to the first class are numerous, and common to all parts of the globe. The origin of Lakes is easily explained. The declivity of the basin into which the waters descend is interrupted, and their progress is therefore checked by some natural impediment. Hence they accumulate till the surface rises above the opposing obstacle, and the waters force themselves a passage. A further accumulation is thus prevented.—The lakes belonging to the second class are much fewer, and are chiefly situated in the hot climates. The most celebrated lake of this kind is the Caspian Sea, in the western part of Asia, which receives the majestic Volga, and several other considerable rivers, but has no apparent outlet. The Sea of Aral is a little further to the east than the former, and receives two large Rivers, without having any issue for them. Some other lakes of a similar description are also found in the central parts of Asia, and perhaps in the interior of Africa. The lake of Titicaca, in Peru, belongs to this class, but is much inferior both to the Caspian and the sea of Aral.

The phenomena presented by these bodies of water have frequently proved the source of astonishment. Some lakes are periodical; their existence either depends upon the quantity of rain

that falls at certain seasons, or upon an invisible connexion with some subterranean reservoir. The periodical appearance and disappearance of the lake *Cirknitz*, in Illyria, is supposed to arise from the latter cause.

The agitations experienced by several lakes, which do not depend either upon the increase or diminution of their waters, presents something both curious and complicated. Among others, Loch Lomond, in Scotland, and lake Wetter, in Sweden, are subject to violent agitations, in the finest weather; and the lake Krestin, in Brandenburg, is often so much agitated as to upset the boats of the fishermen. Other lakes present the phenomena of floating islands. These are by no means uncommon; and some of them rise and sink periodically. The temperature of lakes is likewise subject to great variation, but this generally arises from local causes.

Besides common water, which Nature has so plentifully diffused over most regions of the globe, there are springs impregnated by a variety of mineral substances, and which are often valuable for their medicinal qualities. The most common ingredient in these waters is iron, under a variety of forms. But they also often contain magnesia, glauber salt, carbonic acid gas, and other substances, which, from their combinations, give great diversity to the waters. Springs impregnated with sulphur are also common in the vicinity of volcanoes, and in countries subject to earthquakes. They are usually warm, and the heat is sometimes accompanied by a violent ebullition, which frequently projects the water to a great height. Iceland, the Azores, and various other places, afford striking examples of this kind. The celebrated fountain called the *Geyser*, in the first of these islands, often propels its contents to the height of more than 100 feet, and sometimes to double that elevation. See the plate annexed to the description of ICELAND.

There are also springs that are inflammable without being hot. This generally arises from a quantity of inflammable gas, or oily matter, which floats on the surface of the water; as in the instance of a brook in the vicinity of *Bergerac*, in the south of France, the surface of which may be set on fire by a lighted straw. Others, being mixed with bitumen, particularly naphtha and petroleum, which float on the surface, will easily take fire, as at *Baku* and other places in Persia.

The waters of some springs and lakes have a *petrifying*, and others an *incrusting* quality. The former is impregnated with extremely fine silicious particles, which penetrate the pores of wood and other substances immersed in them, and change their nature. This property is possessed by Lough Neagh. The Danube and the Pregel also have the same quality, but in a less degree. The waters which possess the incrusting property, operate in a more rapid and manifest manner, by depositing the earthy particles they hold in solution, on the surfaces of bodies submitted to their action. This effect is produced by both hot and cold springs, but particularly by the former. The matter deposited is generally calcareous, but in the instance of the Great Geyser it is silicious.

The OCEAN is the grand receptacle of almost all the waters on the globe; and, properly speaking, it is only an immense lake of the second class. It consists of one continuous fluid, or of a single sea, which encompasses the globe, extending from pole to pole, and covering nearly *six-tenths* of the whole surface. All the Mediterranean Seas, Gulfs, and Bays, are merely distinct parts of this vast fluid mass. To facilitate the common purposes of life, to which the ingenuity of man has rendered even this turbulent element subservient, different appellations have been bestowed upon its distinct parts. The limits of these divisions, however, are not always the same among different people. *Malte Brun*, in his *Précis de la Géographie Universelle*, has adopted the following division, which is equally natural and simple.

- A
The great south eastern basin ; occupying the greater part of the aquatic hemisphere of the globe.
1. *Southern Ocean.* { Its frontier may be fixed by a line drawn from Cape Horn to the Cape of Good Hope ; thence to Van Diemen's Land, and returning by the south of New Zealand to Cape Horn.
2. *Eastern or Great Pacific Ocean.* { a. *The great Archipelago*, or the part comprised between New Zealand on the south, the Marquesas on the east, the island of Formoso on the north, and the Strait of Malacca on the west
b. *The North-Eastern Ocean*, between Asia and North America. The seas of Japan, of Kamtschatka, and Beering's Strait, make a part of it.
c. *The South-Eastern Ocean*, stretching from the islands of the great Archipelago to South America.
3. *Indian Ocean,* { With its various gulfs. The limits above indicated show what remains for this section of the great eastern basin. The Red Sea, or Arabian Gulf, the Persian Gulf, and the Bay of Bengal, form part of this division.
- B
Western Basin, forming a kind of channel between the two great continents.
4. *Western Ocean.* { a. *North Sea.* It is separated from the Atlantic on the south-west by the Straits of Dover, Great Britain, the Islands of Faroe and Iceland. The Baltic with its gulfs, and the northern Frozen ocean, constitute parts of this division.
b. *The Atlantic Ocean*, extending from the above line of demarcation to the two nearest points of Brazil and Guinea.
Branches. { 1. *The Mediterranean* and its gulfs.
2. *The Gulf of Mexico*, &c.
3. *Hudson and Baffin's Bay*, or the Esquimaux Seas.
c. *Ethiopian Ocean*, between Brazil and Africa, as far as the line which joins Cape Horn and the Cape of Good Hope.

By following this division on a globe, several general results present themselves, all worthy of attention.—It is remarkable that nearly one half of the globe should be covered with water, while almost the whole of the land is situated in the other. If the frozen regions about the south pole do not contain any large tracts of land, we may, by following the meridian of the Cape of Good Hope through the pole to the environs of Beering's Straits, trace a line of about 200 degrees, which is equal to 4000 marine leagues, or 13,840 English miles. This line, therefore, exceeds half the circumference of the globe by about 400 leagues, and passes wholly over an aquatic surface. A line drawn under the equator through Sumatra and Borneo, to the western coast of America, presents, with only two or three interruptions, an aquatic expanse of 4200 leagues. Again, the 40th parallel of south latitude exhibits a liquid zone, with only 15 degrees of land, and consequently forming an extent of 5300 leagues, a little less than two-thirds of the whole circumference of the earth. Such is the vast extent of the great southern basin of the terrestrial globe.

The nature of the fluidity renders the *level* of the sea, taken in its general sense, every where the same ; for as this property allows the particles to obey the least force impressed upon them in any direction, the effect of gravity, combined with that of the centrifugal force, arising from the earth's rotation about its axis, will necessarily dispose the surface of the waters into a spheroidal form. The general figure which the ocean assumes may, therefore, be regarded as the form of the earth. The constant agitation of the waters, however, renders it difficult to ascertain the exact level of their surface ; though this is employed as a common term of comparison for all other terrestrial altitudes and depressions. When the nature of fluidity and the action of general forces only are considered, the level of the liquid surface must be

every where the same; yet, when the influence of local causes are taken into the account, experience has shown that considerable difference exists. On coasts where the tides are strong, the mean level of the surface is not the medium between high and low water, but nearer the latter. When the wind continues long in the same direction, it causes the waters to accumulate against the opposing coasts, and the level, as determined under such circumstances, will necessarily be too high. Bays, Gulfs, and Mediterranean Seas, are subject to the same influence, when the openings by which they are connected with the ocean coincide with the direction of the wind. Instances have been observed, in which this cause has raised the waters several feet. From these effects, in addition to the general motion of the waters from east to west, it was supposed that there was a considerable difference in the height of the waters in bays and gulfs on the east and west sides of the continents and large islands. M. *Humbolt*, therefore, endeavoured to ascertain the fact in reference to the Gulf of Mexico and the opposite side of the isthmus. From the most careful observations, he concludes, that the level of the water in the Gulf of Mexico, exceeds that on the opposite shore of the Pacific by 6 or 7 metres, about 20 or 23 feet. During the residence of the French Engineers in Egypt, they found the waters of the Red Sea, on the east side of the isthmus of Suez, 9·912 metres, (or about 32½ English feet,) higher than those of the Mediterranean, on the opposite shore of the same isthmus. In general, the sea is more elevated in all those small portions which have their inlets towards the east, than in the ocean itself, or in those which have the channels of their communication in an opposite direction. This arises from the general motion of the waters from east to west. There are also seas in which the level increases at certain seasons, from the augmented quantity of waters discharged by the rivers at those periods. Such are the Baltic and the Black Sea, which participate in the nature of lakes, the level of their waters being generally above that of the ocean.

The depth of the ocean is extremely various. Its bed resembles the surface of the land; and could it be viewed through its watery envelope, it would present an assemblage of mountains and plains, hills and vallies, similar to those which the continents exhibit. Vast spaces exist in the ocean in which no bottom has been found by the longest line that could be used; the greatest depth, however, that has been yet been sounded is comparatively small. The experiment was made by Mr. *Scoresby*, in the Greenland Sea, in June 1817, and was only 7200 feet, while the highest mountain that has been measured exceeds three times that number. If we suppose an imaginary plane, following the curvature of the ocean, to pass through the continents, and join the opposite coasts, the elevations of the land above this plane, in the one case, will bear a great resemblance to the soundings of the ocean, in the other. The low lands will correspond to the shallows, and the deeps to the mountains, the only difference being in their inverted order. As the ocean covers so great a part of the earth's surface, there is reason to believe that the depth of its greatest abyss is at least equal to the height of the highest mountain.

The *saltness* and *specific gravity* of the ocean are properties which are subject to variation in different parts of the globe. Generally speaking, they decrease from the equator to the poles; but the difference is not great, except where it is affected by local circumstances, as in bays and gulfs, which receive numerous and extensive rivers. The great tropical rains, and the regular periodical winds, have also an influence on the saltness of the sea. The principal substances that are chemically combined with the pure water in forming that of the ocean, are muriatic acid, soda, and magnesia. On evaporating the waters, the muriatic acid and the soda are found united, and form the muriate of soda, or common salt. The proportion of this salt in the neighbourhood of the British islands, according to Dr. *Thomson's* chemistry, is about $\frac{1}{3}$ rd

of the weight of the water, or nearly 3 per cent. The same author also observes, “as far as experience has gone, the proportion of saline contents does not appear to differ much, whatever may be the latitude in which the water of the ocean is examined. Captain *Phipps*, in north latitude 50° , and 60 fathoms under ice, found the saline contents of sea water 0.0354; in latitude 74° , he found them 0.036; in latitude 60° , 0.034. *Pages* found sea water, taken up in north latitude 45° and 39° , to contain 0.04 of saline contents; and *Baumé*, obtained by analysis, from water taken up by *Pages*, in north latitude 34° and 14° , exactly the same proportion of saline matter. In southern latitude, *Pages* found the following proportions of saline contents, viz.

<i>Latitude.</i>	<i>Saline Matter.</i>	<i>Latitude.</i>	<i>Saline Matter.</i>
49° 50'	0.0416	25° 54'	0.04
46 0	0.045	20 0	0.039
40 30	0.04	1 16	0.035

From the experiments of *Bladh*, on the specific gravity of sea water, in different latitudes, it appears that the water contains more salt at the tropics than near the equator.”

In the Arctic regions, the sea is less salt than in temperate or torrid climes. A quantity of water taken from the surface, in north latitude $77^{\circ} 40'$ and east longitude $2^{\circ} 30'$, by Mr. *Scoresby*, was, in 1000 grains, found to give 35.62 of saline matter; which is from $\frac{1}{4}$ to $\frac{1}{5}$ part of the whole, or 3.562 per cent. An account of the “quantity of saline matter in the water of the North Polar Sea” has lately been published in the *Edinburgh Philosophical Journal*, by Dr. *Fyfe*, from which the following results are extracted.

<i>Latitude.</i>	<i>Longitude.</i>	<i>Quantity of Saline matter.</i>	<i>Latitude.</i>	<i>Longitude.</i>	<i>Quantity of Saline matter.</i>
64° 26'	0° 38' east ..	3.54 per Cent.	77° 30'	6° 10' east ..	3.42 per Cent.
66 45	1 00	3.79	77 34	8 00	3.70
69 14	3 00	3.75	78 25	8 20	3.91
71 10	5 30	3.75	78 30	6 30	3.88
74 34	10 00	3.77	78 35	6 00	3.27
76 33	10 20	3.60			

Dr. Thomson also compares the specific gravity of water taken from various places in the Atlantic and Indian oceans with the proportional quantity of salt as given by Bishop *Watson*, in his *Chemical Essays*, from which he concludes, that the ocean contains most salt from 10° to 20° of south latitude, where the proportion of the saline contents is rather more than $\frac{1}{4}$ th of the whole. The quantity of salt between 18° and 34° is rather less than $\frac{1}{4}$ th; at the equator it is nearly $\frac{1}{2}$ th. From these statements, it seems that the proportion of saline ingredients in sea water is generally between $\frac{1}{4}$ rd and $\frac{1}{8}$ th of the whole weight of the water. The difference between this and the $\frac{1}{2}$ rd, as stated above, arises from the common salt only being taken in the one case, and the whole of the saline matter in the other. The proportional saltiness of various regions, according to the observation made by *Bergmann*, in his *Physical Geography*, differ in several instances from the preceding results; but there is no reason to doubt the accuracy of these results.

Experience has proved that the waters of the Baltic are less salt than those of the ocean, and that the variations in saltiness to which this sea is subject, correspond in a great measure with the strength and direction of the wind. The maximum is about 18 parts in 1000, of the water, and this takes place during a storm from the west, which forces the greatest quantity of water from the ocean into this sea. The minimum is only about half the maximum, and takes place when the wind blows strong from the east. The water of the ocean experiences great variations, also, from the agitation of the tides, the action of currents, and the change of

seasons. Near the salt-mine at Walloe, it has been remarked that when the blocks of ice which occupy about 30 feet in depth detach themselves, the water at the surface of the sea contains about $\frac{1}{4}$ th. of its weight of salt, while at all other times the proportion is only about half that quantity. On the coast of Malabar, the water sometimes becomes almost drinkable during the greatest strength of the south-west monsoon. In Iceland, the sea is saltier during the flux than the reflux; and in the Gulf of Bothnia the contrary is experienced. It is even said that the inhabitants know, by the increased saltiness of the water, when the flux is about to commence. In the same gulf, the sea is saltiest about the winter solstice, and freshest during the opposite part of the year. In many places the water is said to be less salt at the surface, than at the bottom of the ocean. In the Strait of Constantinople, the proportion is found to be as 31 to 36; and in the Mediterranean as 29 to 32.

Water taken from the surface of the ocean, has a disagreeable bitter taste, in addition to its saltness. This is supposed to arise from the vegetable and animal matter it holds in a state of decomposition, and which diminishes in proportion to its depth. According to the experiments of *Sparmann*, water, taken from the depth of 60 fathoms, was found to have very nearly the taste of fresh water in which common salt had been dissolved; and, when analyzed, it contained only a very small portion of magnesia.

These saline ingredients, combined with the water of the ocean, render it heavier than common water; and this *specific gravity* increases with its saltness. The following is the proportional specific gravities of different kinds of water; viz

Distilled water, in weight	1.000
Purest spring water	1.001 to 1.005
River water	1.010
Sea water	1.030

The specific gravity of sea water has also been found to be different at different depths. *Bergmann* states that in the Ceresund, water taken up at the surface, at the depth of five fathoms, and of 20 fathoms, had its specific gravity to that of melted snow, as 1.0047, 1.0060, and 1.0189, to 1.000. Since it has been proved that water is in some degree compressible, both its density and specific gravity ought to increase with the depth from which it is taken; and it has been calculated, that at the depth of 1800 fathoms it should be compressed $\frac{1}{1000}$ th parts by its own weight. The following average densities, or specific gravities, with their proportion of salt annexed, were determined by Bishop *Watson*. The temperature to which the water was reduced, was about 60° of Fahrenheit's scale, viz.

	Density.	Proportional Saltness.
From 0° to 14° of latitude	1.0272	0.0374
From 15 to 25	1.0282	0.0394
From 30 to 44	1.0278	0.0386
From 54 to 60	1.0271	0.0372

“ In estimating the temperature of the ocean, there are four circumstances particularly to be attended to; 1. The temperature of the water at the surface corresponding to the different latitudes, supposing it to be at rest, and without either shallows or currents; 2. The decrease of heat in the strata of water which rest upon each other; 3. The effect of shallows or banks upon the surface water; 4. The temperature of the currents, which mix together the waters of different zones.” A full investigation of each of these subjects would greatly exceed the limits which could be assigned to them in this Introduction; and we must, therefore,

confine ourselves to a few popular remarks, and the statement of the principal facts which have been observed respecting it. "The water of the ocean is said to be warmest between 5° $45'$ north and 6° $15'$ south latitude; where it has been found by different observers to be from $82^{\circ}5$ to $84^{\circ}5$ of Fahrenheit's thermometer; the temperature of the ocean, in this part, is from 4° to 6° higher than the temperature of the air which reposes on it. As we advance towards the poles, the influence of the season, upon the temperature of the surface of the sea, becomes very sensible; but, as a great mass of water follows the changes of the temperature of the air very slowly, the mean of the months in the ocean and the air do not exactly correspond with each other."

The general temperature of the water at the surface, in regions where there is neither currents nor shallows, is not very different from the mean annual temperature of the incumbent atmosphere. It has been found, by observation, to be about 60° at 26° of north latitude; 70° at 45° ; and 81° at the equator. In shoals, the temperature of the water, even at the surface, is less than in other parts of the ocean; and in all latitudes, where the water is undisturbed by local causes, the temperature diminishes as the depth increases. M. *Peron*, who made a great number of observations of this kind, found, near the equator, that the temperature at the depth of 390 fathoms, was only $45\frac{1}{2}^{\circ}$, while at the surface it exceeded 80° . That the water at this depth cannot be heated by the immediate influence of the solar rays appears evident, since, according to *Bouguer*, light does not penetrate to a greater depth than 113 toises; and, as there is no reason to conclude that the caloric from the same source can penetrate much further, the temperature at the bottom ought apparently to be that of the interior of the earth. Currents modify this temperature, by transmitting the water of one region to another, and thus uniting different temperatures. The current which sets into the Gulf of Mexico is much warmer than the adjacent parts of the ocean; but the contrary is the case with the current which pours its waters through the Straits of Magellan into the Pacific. M. *Humboldt* has given the following table of the temperature at the surface of the Atlantic Ocean, as extracted from the numerous experiments contained in his Journal, kept on crossing that ocean from the 9th of June to the 15th of July, 1799.

North Latitude.	West Longitude.	Temperature of the Atlantic Ocean at its surface.
39° $10'$	16° $18'$	59° 00 Fahrenheit.
34 30	16 55	61° 34
32 16	17 4	63° 86
30 36	16 54	65° 48
29 18	16 40	66° 74
26 51	19 13	68° 00
20 8	28 51	70° 16
17 57	33 14	72° 32
14 57	44 40	74° 66
13 51	49 43	76° 46
10 46	60 54	78° 44

"From Corunna to the mouth of the Tagus, the water of the sea varied but little in its temperature; but from the 39^{th} degree of latitude to the 10^{th} , the increment was very sensible, and very constant, though not always uniform. From the parallel of Cape Montego to that of Salvage, the progress of the thermometer was almost as rapid as from 20° $8'$ to 10° $46'$; but it slackened extremely on the limits of the torrid zone, from 29° $18'$ to 20° $8'$. This inequality is, no doubt, caused by the currents that mingle the waters of different latitudes, and which, according as we approach the Canary Islands, or the coasts of Guyana, set either to the south-

east or the north-north-west. *M. de Churruca*, who crossed the equator, in his voyage to the Straits of Magellan, in the 25th degree of west longitude (in October,) found the maximum of the temperature of the Atlantic Ocean, at the surface in 6° of north latitude. *Humboldt's Personal Narrative*.

Vast masses of ice perpetually obstruct some parts of the ocean, particularly in the polar regions. These icebergs, or floating islands, have their origin in high latitudes, where both the temperature and saltness of the ocean are diminished. Many of them are, doubtless, formed in the vallies along the coast, where, after running to a great extent into the sea, they are undermined by the waves, and separated from the immense masses of which they originally formed a part. These floating islands are then carried towards the south and south-west by the general current, which flows from the poles towards the equator; and they have a great influence in lowering the temperature both of the ocean and the atmosphere. Fragments of icebergs occasionally reach the 40th degree of latitude. At 50°, the rivers, lakes, and bays, of the sea sometimes freeze; and at 60°, the gulfs and interior seas frequently freeze in their whole extent. About the 70th degree the navigator meets with numerous large floating islands of ice; and 10° further north his progress is often wholly stopped by their becoming fixed. In the southern hemisphere, Captain Cook could not advance beyond the 71st degree for obstructions arising from this cause. The ice, in the southern regions, not only descends to lower latitudes, but is much less pervious than towards the north pole. The 80th degree of north latitude, or beyond it, can be attained every summer, but the 71st degree of south latitude has never been passed but once; so that the *ne plus ultra* of the Antarctic regions seems to be the 72nd degree, while of the Arctic it is at least the 82d. The nearest approach that has been made to the south pole was not within 1130 miles; but the north pole is annually approached within 600.

These, and various other facts, show, that the southern hemisphere is sensibly colder than the northern at the same distance from the equator. This arises, in a great measure, from the sun continuing longer in the northern than in the southern hemisphere, together with the earth being in the most distant part of her orbit during the summer of the southern regions. The mean annual temperature of the southern hemisphere is very little less than that of the northern; but as it contains more water, both the heat of summer and the cold of winter are less than in the same parallels of north latitude. Congelation, therefore, continues longer, and extends further from the pole. The floating ice also increases the cold of the regions through which it passes, for its approach is always accompanied by a sensible depression of the mercury in the thermometer.

Among the various phenomena that are daily exhibited on the surface of the terrestrial globe, there are none more astonishing than the TIDES of the ocean. The regular flux and reflux of this mighty element was wholly inexplicable to the ancients; but they are now known to be produced by the combined influence of the sun and moon, especially of the latter. A detailed explanation of these interesting phenomena belong rather to physical astronomy than to geography; but the following observations will enable the reader to comprehend the principles upon which that explanation is founded, as well as elucidate the causes that produce these phenomena.

The attractions of different bodies on each other, are directly as their masses, and inversely as the squares of their distances. The moon, therefore, exercises different degrees of attraction at different points of the earth's surface, her influence being the most intense at that point where a right line, joining the centres of the moon and the earth, cuts the surface of the latter, and least where that line would penetrate the surface, if produced to the opposite

side. If the earth consisted of an entirely solid body, the result of the moon's attraction would be a common motion, proportionate to the aggregate of the lunar action upon all its particles. But, as a great portion of the terrestrial surface is covered with a fluid, each particle of which yields to the slightest force impressed upon it, and as the motion produced is proportional to the intensity of that force, the different parts of the fluid must experience different elevations in consequence of the inequalities of the lunar attraction. That part of the aqueous fluid which is immediately beneath the moon, is not only nearer that body, but experiences her direct attraction; and this attraction being opposed to the action of gravity, the water rises highest; while all the parts from this point to 90° distant from it, are not only further from the attracting body, but are acted upon more obliquely, and must, therefore, experience a less effect. They are in consequence less elevated; and this elevation diminishes, as the distance and obliquity of the force increase. As the opposite point of the earth's surface is the most distant from the moon, it experiences less of her attracting influence than any other of the opposite hemisphere. The waters accumulate at this point, that the augmented quantity may compensate for their diminished gravitating power, and the equilibrium be thus restored. The earth, together with its circumambient fluid, is, therefore, of a spheroidal form, having its greatest diameter nearly in the line passing through the centres of the two attracting bodies. The most elevated parts of the water, however, are not exactly in this line, because the molecules do not instantly acquire the respective positions which result from the aggregate actions of the moon upon the whole fluid; consequently, the time of high water is always after the moon has passed the meridian of the place of observation. The sun, as well as the moon, acts upon the ocean, and the direction of his action varies with respect to the moon, according to the relative positions of these bodies. This also causes the time of the tide to vary from the moment of the moon's passage over the meridian.

The intervals between the successive returns of high water, afford the most satisfactory proof that the attraction of the moon is the principal force by which the ebbing and flowing of the sea is produced. These intervals are not always the same, but they do not deviate much from a mean duration, which is 1.03505 of a day, expressed in mean time. In this period, therefore, there are two flood, and two ebb tides. But this is precisely the time which the moon requires to return to the same meridian, in virtue of her mean motion. This periodical flux and reflux of the sea, therefore, answers to the lunar day. Hence, if it be high water at any place on one day exactly at noon, it will happen on the following day, at $.03505$ after noon, the day after at $.0701$ after noon, and so on in succession. Now, if these fractions of a day be converted into minutes and seconds, we have $.03505$ equal $50m. 28s.$ very nearly; and, therefore, the second tide would take place at $50m. 28s.$ after 12 o'clock; the third, at $40m. 56s.$ after one, &c. The intermediate tides are necessarily retarded half that time. The daily retardation of the tides, however, is not always exactly this quantity; but sometimes a little more, and at others a little less, which is an additional proof that the attraction of the moon is the principal cause of these phenomena, for her motion is not regular. It is subject to many inequalities, between which and the variations of the tides a strict correspondence exists. See *M. Biot's Astronomie Physique*, Tome II.

Though it is the joint action of the sun and moon that produces the phenomena above explained, and although the magnitude of the former body is so immense with respect to that of the latter, yet, the moon's proximity to the earth causes her influence on the sea to be about three times as great as that of the sun. It is, consequently, upon the lunar motion that the tides principally depend. As it is high water at the same time, soon after the moon passes the meridian of any place, and at 180° distant from it, there are two tides during each of her

revolutions about the earth; and the periods at which these take place are as stated above. The united forces of the sun and moon produce their greatest and least effects when they both act in the same line. The tides which correspond to the new and full moon are, therefore, the greatest.

Such are the principal phenomena which the theory of the tides indicates, and which experience has confirmed. But, that these may take place with the regularity, and in the degree which an accurate calculation assigns, it is requisite that the motion of the waters should be perfectly free and unimpeded by coasts and other opposing obstacles. It is, therefore, only in the open ocean that this regularity can be expected. In the narrower parts, and in various other situations where local causes operate strongly, the tides differ much from those of the open sea; but the regularity of their succession, and other phenomena connected with them, are sufficient to establish the fact of their resulting from the same general cause, though the influence of that cause is more or less modified.

From the inequality of the solar and lunar days, the action of the sun sometimes opposes, and at others unites with that of the moon, in producing the tides. When, therefore, these two forces act nearly in the same line, either in similar or opposite directions, their combined effect must be the greatest. The highest tides consequently happen during the conjunctions of these bodies; that is, at the times of new and full moon; and the lowest at the quadratures, when the effect of their attractions have the greatest influence in opposing each other. The highest tides, however, do not happen on the days of new and full moon, but two or three days afterwards. This effect results from an established law of Nature. The motion of the waters once produced, it does not immediately cease with the cause, but they continue to rise for a certain period by the momentum they have acquired, though the immediate action of the sun may tend to depress them. This motion will necessarily continue till the effect of the solar influence exceeds the acquired momentum.

The preceding explanation supposes the position, both of the sun and moon, to be in the plane of the equator; but their various declinations, as well as the different distances of the earth from each, must have an effect upon the tides at different seasons of the year. It is owing to these causes that the two highest tides happen about the equinoxes: the one being generally a little before the vernal, and the other a little after the autumnal, equinox. But these, like all the other phenomena, are subject to variations both with respect to time and degree, in consequence of the position of the lunar orbit, and the distance of the syzygies from the equinoxes.

In the torrid zone, the tides are propagated from east to west, according to the apparent motion of the heavenly bodies. In the northern temperate zone, they flow from south to north, and in the opposite hemisphere, their general motion is in a contrary direction. In both these cases, they flow from the equator towards the poles, unless counteracted by local circumstances. In the northern frigid zone, the tides are small. Its distance from the equator, where the greatest power of the attracting forces is felt, the smallness of the seas, and the vast mountains of ice which float on their surface, unite to destroy the effect of the solar and lunar attraction.—Respecting the antarctic regions nothing is known.

The great inequalities in the bed of the ocean, the positions of the coasts, the various breadths of channels and straits, with the influence of winds, currents, and other local causes, affect the elevation and depression of the waters in certain situations. These increase the flux on the coasts and in narrow channels; and by causing the friction which the waters experience to vary, either accelerate or retard the duration of high and low water. Thus in some of the islands in the Pacific Ocean, the tides are regular, and do not exceed one or two feet in height;

while on the western coasts of Europe, and the eastern shores of Asia, they are very strong, and subject to great variations. At the island of Formosa, near China, the tides are said to have occasionally risen to an astonishing height. At St. Malo, on the west coast of France, where the waters are enclosed in a bay, and repelled by the opposite coasts of England, the highest tides exceed 50 feet.

“ In the gulf of Hamburg the tide sometimes results from the combination of three distinct forces : viz. The flux which arrives through the straits of Dover ; the tide which flows by the Orkneys and is reflected towards the German Sea by the polar current, and the strong winds from the north-west ; and, lastly, by the repulsion of the waters of the Elbe and other rivers. The common tides at Hamburg rise about seven feet, and at the syzygies about eight or nine inches higher. But when the wind blows violently from the north-west, the waters rise to 19 feet, and sometimes exceed 21 feet. Hamburg is situated about 24 leagues from the mouth of the Elbe ; and the tide proceeds through this distance in about five hours and 23 minutes ; having arrived at the mouth of the river, it requires from three quarters of an hour to an hour and a quarter, to cause the current of the river to flow back. The same current causes the duration of the flux at Hamburg to be only 4 hours and 18 minutes, and the reflux to be 8 hours and 6 minutes. This example will be sufficient to explain the phenomena of the tide, inclosed in a narrow channel and repulsed by a current flowing in a contrary direction.”

Malte Brun. Tome II.

One of the most remarkable phenomena produced by local circumstances is that of changing the two tides, which naturally occur in the same place during a lunar day, into one. At the port of Batsha, in the Gulf of Tonquin, the islands and peninsulas which project into the sea, caused the mass of waters, moved by the flux and reflux of the ocean, to separate into two currents, which move in opposite directions. When it happens that the same channel receives one of these currents at each end, their opposition, with the different times at which they ebb and flow, makes one of the tides disappear, according as the water may rise at one extremity of the channel, or as it may fall at the other. At the port above mentioned, the time of high water is not when the moon passes the meridian, but when she sets, and that of low water at her rising. In some places the tides rise very rapidly, and soon attain their height, as is the case on some parts of the coast of France, and at the mouth of the river Maranon, where the water sometimes rises in a few waves, which succeed each other in a short time, to the height of 12 or 15 feet. The tides of the Mediterranean and the Baltic are very small, in consequence of their little extent and narrow communication with the ocean ; for in both these seas the motion of the waters can be only slightly influenced by the action of the heavenly bodies, since it is the sum of the partial effects upon each molecule of a great mass of fluid that renders their action sensible. In lakes, therefore, where the quantity of water is so comparatively small, no analogy between their motions and the tides is perceived.

Besides the regular periodical CURRENTS produced by the tides, various others arise from different causes. The waters of the sea may be put in motion by an external impulse, by a difference in temperature and saltness, by the periodical melting of the polar ice, or by the inequality of evaporation that takes place in different latitudes. Sometimes several of these causes concur in producing the same effect ; at others, their actions are opposed to one another, and their effects wholly or partially destroyed. Some of these currents constantly follow the same direction, others are subject to periodical changes ; while a third class are more accidental. The most regular and extensive Current on the globe is that which constantly flows from east to west, between the tropics, and extends on each side of the equator to about the 30th degree of latitude. This vast current necessarily results from the attraction of the heavenly

bodies, the diurnal motion of the earth, and the direction of the trade winds. Its existence is incontestably proved by vessels, sailing to the westward, always being a head of their reckonings ; that is, their real situation, as determined by observations of the heavenly bodies, is always found to be west of that estimated from the rate at which the vessel is supposed to sail, as impelled by the wind alone. This difference of situation is occasioned by the general movement of the waters in the same direction, and is consequently the proper measure of the current. This is the reason why navigators in sailing from Europe to America and the West India Islands, make the latitude of the Canaries, and then shape their course in the direction of the wind and current across the Atlantic.

A general current also flows from the poles towards the equator. This arises from the increased evaporation in the equatorial regions, and the augmented temperature of the waters, which render them specifically lighter than those of the ocean in higher latitudes, as well as from the increased supplies produced by the melting of the polar ice ; all of which render these currents necessary to maintain the equilibrium of this perpetually circulating fluid. Their existence and effects are fully attested by the enormous masses of polar ice, which they convey into the more temperate regions of the ocean, and which sometimes float as low as forty degree of latitude.

These general currents are greatly modified, and changed into various directions by the obstacles they encounter in their progress. The coast of America, and the numerous islands with which it is flanked, intercept the general current of the Atlantic, and create what navigators call the *gulf stream*. This great current enters the Gulf of Mexico, sweeps round the shores of that Gulf, and issues with accelerated velocity towards the north, by the channel between the southern point of Florida and the Bahama Islands. It then rolls along the shore of North America, diminishing in velocity, but increasing in breadth, till it reaches the great bank of Newfoundland. There it suddenly turns towards the east and south-east, and flows with still decreasing velocity towards the shores of Europe, the Azores, and the coasts of Africa. Navigators readily distinguish this current by the high temperatures of its waters, their great saltness, their indigo colour, and the shoals of sea weed that cover their surface. M. Humboldt, in May 1804, observed its velocity in the 27th degree of latitude, and found it about 80 miles in 24 hours, though the north wind blew very strongly at the time of the observation. When it issues from the Gulf of Florida, its velocity resembles that of a torrent, and is sometimes five miles an hour, but at others not more than three. Between the nearest point of Florida and the bank of Bahama, the breadth is only 15 leagues, but a few degrees further north it is 17 ; in the parallel of Charlestown, it is from 40 to 50 leagues in breadth ; and in latitude 40° 25', this is increased to nearly 80 leagues. The waters of the torrid zone, being thus forcibly impelled towards the north-east, preserve their high temperature to such a degree, that in latitude 40° and 41° it has been found to be 22°·5 of the centigrade thermometer, or 72° of Fahrenheit ; while out of the current the temperature of the water was only 63°·5. In the parallel of New York, the temperature of the gulf stream is equal to that of the sea in latitude 18°. When the current reaches the western islands of the Azores, where the breadth is about 160 leagues, the waters still preserve a part of the impulsion they received in the Gulf of Florida, nearly 1000 leagues distant. Thence the current proceeds to the Canaries and the coast of Africa, and in the latitude of Cape Blanco, where the waters flow towards the south-west, they mingle with the current of the tropics, and re-commence their tour from east to west.

From this it appears that the waters of the Atlantic, between the 11th and 43d degrees, are constantly drawn by currents into a kind of whirlpool ; and if a molecule of these waters be supposed to return precisely to the place from which it commenced its motion, M.

Humboldt has calculated, from the known velocity of the current, that it would require two years and ten months to complete its circuit of 3000 leagues.

"A boat," he observes, "which may be supposed to receive no impulsion from the winds, would require thirteen months from the Canary islands, to reach the coast of Caraccas, ten months to make the tour of the Gulf of Mexico and reach Tortoise shoals, opposite the port of Havannah, while forty or fifty days might be sufficient to carry it from the Straits of Florida to the bank of Newfoundland. Estimating the velocity of the water at seven or eight miles in 24 hours, in their progress from this bank to the coast of Africa, it would require ten or eleven months for this last distance. Such are the effects of this slow but regular motion, which agitates the waters of the ocean."—That a branch of this current reaches the western shores of Europe, is evinced by the circumstance, that the productions of the tropical regions of America are frequently thrown on the coasts of the Hebrides, Scotland, and Norway.

A current constantly flows through the channel that separates New Holland from New Guinea; and through Bass' Strait, which divides New Holland and Van Diemen's Land. It then flows along the coast of the former island, and that of Sumatra, till it reaches the bottom of the Bay of Bengal. A branch also passes through the Straits of Sunda. From the southern peninsula of India, a chain of islands and shoals extends to the northern point of Madagascar. These cause the current of the Indian ocean to turn towards the south-west, along that range, till it reaches the coast of Africa with great impetuosity. It follows the direction of its shores to the Cape of Good Hope, where it mingles with the general movement of the ocean. About 20 or 30 leagues from the western coast of Africa, a strong current sets into the Gulf of Guinea; so that vessels, which approach too near the shore, are always carried to the eastward of their reckoning by its influence. A current likewise flows through the straits of Gibraltar, into the Mediterranean; and another through that of Magellan, into the Pacific Ocean.

When two currents, of nearly equal strength, flow in opposite directions and meet in a narrow channel, the motion of the waters assumes a spiral form, and sometimes constitutes a *whirlpool*. This is familiarly illustrated by the small eddies so often seen at the confluence of rivers. The Euripus, near the island of Eubœa; and the Charybdis, in the straits of Sicily, are phenomena of this kind which have been the dread of the mariner and the theme of the poet, from the earliest period of European history. The Maelstrom off the coast of Norway, is another whirlpool, which is described among the curiosities of Sweden. These are all subject to great variation from the influence of winds, high tides, and other local circumstances; but are generally very dangerous to navigation.

That active and invisible fluid which envelopes the earth, is one of the grand elements in the economy of nature. It is equally essential to the support of animal and vegetable life; and, therefore, its phenomena are important branches of physical geography. Its chemical and mechanical properties are interesting objects of philosophical research; but the effects of these properties, as exhibited in their influence on the different regions of the globe and its productions, are the proper topics of the present inquiry. The *Atmosphere* consists of that aeriform fluid which surrounds the terraqueous globe, and participates in all its motions. "The air is a vast laboratory, in which nature constantly performs numberless processes of analysis, solution, precipitation, and combination. It is an immense recipient, in which all the attenuated and volatilized productions of terrestrial bodies are received, agitated, mingled, combined, or separated. Considered in this view, the atmospheric air is a chaos, and indeterminate mixture of mineral vapours, vegetable and animal molecules, seeds and eggs, through which the luminous, the calorific, and the electric fluids, incessantly pass and repass in all directions." By insinuating itself into all the vacuities of bodies, air becomes the chief

agent by which nature accomplishes many of her changes in the material world. All terrestrial beings pay their tribute to the atmosphere, and all in return receive the principles necessary to life, to vegetation, and perhaps to organic existence, from its stores. If the earth, with its *present constitution*, were transported to the regions occupied by Mercury, and experienced the temperature which such a proximity to the sun would produce, the fluids, and even a portion of the solid parts of the globe, would be evaporated and mingled with the atmosphere. On the contrary, were it removed to the distant regions of Saturn or Uranus, much of the atmosphere would be condensed and preserve a liquid state. The atmosphere may, therefore, be defined as "an assemblage of all those terrestrial substances, which are capable of maintaining an aeriform state in that temperature which usually prevails near the surface of the globe."

The various ingredients in this heterogeneous compound may be reduced to three classes : viz., the *air* which constitutes the proper atmospheric *fluid* ; the *aqueous vapours* that are suspended in it, and the different *aeriform fluids* that are mixed with it. Dr. *Thomson* concludes, that the quantity of aqueous vapours varies from $\frac{1}{16}$ th to $\frac{1}{100}$ th of the whole atmosphere ; and Mr. *Dalton* thinks that the medium quantity of vapour held in solution at once, amounts to about $\frac{1}{10}$ th. The air which forms the greater part of the atmospheric mass is a gravitating and elastic, but not a simple fluid. Modern science has shown it to be a compound of oxygen gas, azotic gas, and carbonic acid gas, in the proportion of about 27, 72, and 1. The oxygen is that portion which supports animal life and combustion ; while the azote is set free to mix again with the atmosphere. But plants absorb the azote, and set the oxygen free ; and thus the equilibrium of the mixture is constantly maintained.

Galileo first proved the weight or gravity of the atmospheric fluid, by weighing two jars, the one filled with it in its natural state, the other with the fluid much condensed. The effects of the air-pump, and the ascent of fluids in a vacuum, are familiar and demonstrative proofs of atmospheric pressure. It is upon this principle that water is raised by a common pump to the height of 33 or 34 feet ; and that the mercury stands in the barometer from 28 to more than 30 inches in height. These show that its pressure on every square inch is about 14½lbs. The ratio between the weight of atmospheric air, and that of water, at a temperature of 32° of Fahrenheit's thermometer, was found by M. *Biot* to be as 1 to 770·3.

The *Elasticity* of the atmosphere is the property it possesses of resisting any force by which it is compressed ; and of restoring itself to its former volume, when the compressing power is removed. In virtue of this property, air expands indefinitely if not restrained by some exterior force. No positive limits, either of compression or expansion, have yet been ascertained. All that is known on this subject is, that they are extremely distant from each other. Upon the property of expansibility, the height of the atmosphere in a great measure depends. If the air were uniformly of the same density as at the earth's surface, the height of the atmosphere would be readily ascertained from the relation between its specific gravity and that of mercury. It would then be about 5½ English miles. But as its density diminishes as the height increases, the problem is rendered extremely difficult of solution, and other means must be employed to obtain an approximation on the subject. To arrive at this, astronomers generally resort to the property of *Refraction*, by which the atmosphere inflects the rays of light out of their rectilineal course. They find the effects of Refraction begin to be sensible when the luminous body is about 18 degrees below the horizon. This, however, varies with the temperature. By taking the mean temperature, this property gives the height of the atmosphere from 40 to 50 English miles. By comparing the effects produced on the barometer by the pressure of the atmosphere in different situations, M. *Deluc* calculated that the

elevation at which the mercury would sink to the height of a line, or the 12th part of an inch, would be about 30 miles, and where it would fall to $\frac{1}{12}$ th of a line, the elevation must exceed 40 miles.

As the atmosphere expands by heat, and condenses with cold, the rarefaction caused by the solar beams in the equatorial regions, joined to the centrifugal force, arising from the earth's rotation on its axis, must cause the atmosphere in those regions to be very protuberant. *M. Laplace* thinks that the ratio between the two axes of the atmospherical spheroid may at its maximum be as high as that of 2 to 3. The atmosphere, by a natural inference, is supposed to be subject to tides, corresponding to those of the ocean. The reasonings of philosophy, and the results of experience, however, both show that the influence of the celestial bodies, on a fluid so attenuated as the atmosphere, must be very small; for Meteorologists, even the most accurate, when assisted by instruments of the most delicate construction, have not yet been able to prove their existence.

Evaporation is one of the most important operations of the atmosphere. The air possesses the property of dissolving part of the water with which it comes in contact, and of raising the liquid molecules thus detached, into the higher regions of the atmosphere. *Muschenbroek* presents a familiar idea of this process in the following illustration. "Air and water attract each other reciprocally, and are dissolved the one by the other. As soon as the particles of the water begin to separate, they are attracted by the air into which they are dispersed; as happens in all solutions, where there is the same mixture and dispersion of parts." This affinity between air and water is increased, not only by the temperature, but by the number of points of contact, of the two fluids. Evaporation is, therefore, much greater in the torrid zone, than in the colder parts of the globe. It is also augmented by winds and other causes, which, by enlarging the surface of the fluid, increases the points of contact. It is by this silent and invisible, but effectual process, that the watery treasures which float in the upper regions of the atmosphere are supplied; and when these become overcharged with the accumulated vapours, copious showers descend to diffuse joy and plenty over regions which would otherwise be barren and desolate.

The *Temperature* of the atmosphere is a subject which is intimately connected with physical geography, as combining, with its moisture, to form that particular state of the air, at any place, which is indicated by the modern acceptation of the word *climate*. The diversified character which this state assumes in the various regions of the globe, doubtless arises from a combination of different causes; but the two principal of these are, distance from the equator, and elevation above the level of the sea. All the others are merely local effects, limited in their duration, and partial in their influence. In considering the temperature of the globe, the leading principles upon which it depends, and its actual state in different regions, demand attention.

The influence of the latitude, as it relates to the obliquity of the solar rays, and the variation this causes in the space they pass, through the atmosphere, has already been explained in the preceding chapter, (Art. 8.) It will be sufficient, therefore, in this place, to elucidate the other causes which modify the direct influence of the solar beams. The first of these is the distance of the sun from the earth. At the summer and winter solstices, the ratio of these distances is nearly as 30 to 29; and the number of rays that fall on the same space are inversely as the squares of these distances; and, consequently, in this case, as 900 to 841.—Hence the solar influence in winter is to that in summer, in reference to the distance of the sun only, as 900 to 841, or very nearly as 1.0702 to 1. Another of these causes, is the length of the day; for the continuation of the sun above the horizon increases the accumulated heat,

and the shortness of the succeeding night produces a less dispersion, during his absence below the horizon. Refraction is likewise another cause which modifies the solar influence. The rays of light, in their passage through the atmosphere, are refracted; and the more obliquely they fall upon the refracting medium, the fewer of them reach the earth's surface. *Bouguer* calculated that if 10,000 rays fell perpendicularly upon the atmosphere, only 8123 of them reached the surface of the earth; and if their angle of incidence was 50 degrees, not more than 7624 fell on the terrestrial surface; also, that the number was reduced to 2631 when the angle was seven degrees; and to five only when the direction was horizontal.

When the rays of the sun reach the surface of the earth, they are absorbed, and the heat is afterwards copiously imparted to the ambient air. Much of the temperature of the lower regions of the atmosphere, therefore, arises from reflexion. The heat thus transmitted is chiefly confined to the lower strata of the air, by the vapours with which these are charged. As the rarefaction of the air augments its capacity for attracting heat, the temperature of surrounding objects must diminish as this rarefaction increases. From the inferior pressure of the incumbent strata, the air is most rarified in the upper parts of the atmosphere, and the temperature proportionally lowered. When a large body of air ascends to higher regions, it is so much expanded by the greater diminution of pressure, and becomes so cold from the expansion, that hail or snow is produced by the precipitation of the vapour it contained. As there is nothing at these elevations by which its loss of heat can be supplied, the same cold continues till the air descends towards the earth, and again acquires its former state of condensation and temperature. A striking example of these effects is presented in the Cordilleras of South America. There the Andes, almost under the equator, rest upon a basis of burning sand; and, about half way between the level of the sea, and the summits of these mountains, is the delightful and temperate plain on which the city of Quito stands; while the summits are covered with perpetual snow. Yet, according to the testimony of the most celebrated travellers, these three regions seldom encroach on the limits of each other. If the hot winds from below ascend the flanks of the mountains, they become so cooled by the expansion of the air, that they do not affect the snow on the summits; and the cold winds which sweep over these snowy crests, and descend to the lower regions, are condensed as they proceed, and acquire a temperate warmth before they reach the fertile plains of Quito.

An elevation, therefore, of seven or eight thousand feet, even in the torrid zone, affords a temperature similar to that of the mild countries of Europe; while, at five or six thousand feet above that line, the climate of the polar regions is experienced, and those towering summits which rise still higher are clad in perpetual snow. These colossal mountains, not only diffuse a refreshing and salutary coolness over the adjacent districts, but extend their influence to more remote and sultry regions. The noble rivers to which they give rise, after rolling their accumulated waters down their steep sides, expand their broad bosoms to the sun as they linger in the plains, and thus present a wide surface to the power of evaporation; while, by increasing the humidity of the atmosphere, they diffuse beauty and fertility over remote and extensive regions. Winter likewise reigns on the Alps and Pyrenees, at the same time that the blossoms of spring adorn the northern plains of France, and the southern regions of our own country. This beneficent dispensation of Nature, greatly extends the habitable regions of the torrid zone; and countries enjoying a delightful temperature and salubrious climate, may yet be discovered in the very heart of Africa. The *plateaux* of the New World afford similar examples; and the elevated lands of central Asia extend the cold regions within about 30° of the equator. The traveller, therefore, easily passes from one temperature to the other, and experiences, in the course of a few days, every diversity of climate on the globe. As he gradually

descends from the upper regions, he exchanges all the dreary desolation of the polar winter for the mild climate, the varied aspect, and the multifarious productions of the temperate zones. A still further descent presents him with the luxuriance of a tropical vegetation, and exposes him to the full influence of its accumulated solar heat.

In addition to these causes, by which the temperature of the globe is chiefly regulated, there are several others by which it is variously modified. The general exposition of a country and its local declivities; the positions and directions of its mountains; the vicinity of the sea and its relative situation; the mixture of the soil, the state of its agriculture, and the comparative population, have all an influence on the temperature; and there is no large district, perhaps, in which their effects are not either wholly or partially combined.

The exposition of a country towards the east or west, the north or south, has an immediate effect in varying the inclination of the solar rays, and consequently in either augmenting or diminishing their influence on its temperature. As this general exposition is composed of all the local inclinations of the country, a particular example will more clearly illustrate the subject. When the sun has an elevation of 45° his rays fall perpendicularly on the side of a hill which faces the south in an elevation of an equal angle; while they fall upon the plain with an obliquity of 45° , and consequently with a diminished influence. If the surface were inclined in the same angle towards the north, the rays of the sun would be parallel to it, and their effects very small. If the angle of the declivity exceed 45° , the whole surface would be in the shade. This, indeed, is an extreme case, but where the elevation of the plain is less, the influence is proportional. Its effects are very sensible in hilly countries; in those that are mountainous they are striking. In the Vallais, for instance, the Alps are seen covered on one side with perpetual ice, while vineyards and orchards adorn the other with all the charms of fertility. The *south-west* is considered as the warmest inclination, and the *north-east* as the coldest.

The position of mountains has a close connexion with the exposition of a country. They collect and condense the aqueous vapours which float in the atmosphere, and cause them to descend in rains or snows; and thus afford more copious supplies to the rivers and streams that intersect the lower regions. They likewise act as barriers to the cold winds from one region, or to the hot ones from another. The dominions of Russia afford examples of this influence. The central and southern parts of European Russia experience a lower temperature than is indicated by the latitude and exposition of the country, which is principally towards the south. This arises chiefly from there being no range of elevated mountains on the north to secure them from the bleak winds that rush from the frozen ocean, the effects of which are augmented by those that descend from the Uralian chain. Siberia is still more unfavourably situated in this respect. It is inclined to the north, which exposes it to the piercing winds from the Arctic regions, and bounded on the south by the high mountains of Altai, which intercept these winds and prevent them from proceeding to the more southern parts of Asia; as well as screen it from the warm winds of the opposite quarter. The temperature on the south of this chain is, therefore, increased by the same cause that diminishes it on the contrary side.

The nature of soil, and the state of cultivation, are also influential on temperature. Arid soils absorb and transmit the solar rays with great power, and thus augment the heat of the incumbent air; while such as are argillaceous, saline, humid, or marshy, decrease it by their evaporation. The sandy deserts of Africa and Arabia, are reservoirs of caloric, whence it is conveyed by the winds to distant parts; while the humid swamps of South America, are known to produce a contrary effect. Forests lower the temperature of the atmosphere by increasing the evaporation, and preventing the rays of the sun from penetrating the soil. Many parts of Europe now enjoy a milder climate than formerly, from being cleared of the woods with which

they were then covered. The greater degree of cold experienced in North America than under the same parallels in the western parts of the Old world, arises partly from this cause; while the meliorated districts in the United States are corroborating proofs of the same conclusion. Thus man has a slow, but powerful, influence on the temperature and salubrity of the atmosphere. By his perseverance and industry, morasses are dried; rivers are confined to their beds; forests vanish; the soil is furrowed, and the surface of the country is exposed to the benign influence of the sun and wind. Under these circumstances, the climate gradually experiences an increased salubrity, and vanquished nature holds her empire in conjunction with man.

The tendency of the ocean is to equalize the various temperatures of the globe. In the tropical regions, the perpetual succession of sea-breezes diminishes the intensity of the solar influence in the adjacent countries. From this cause, the numerous islands of the Pacific ocean enjoy an almost perpetual spring; while districts, equally favourable in other respects, but surrounded with extensive tracts of land, are parched by continual drought. The intensity of heat is not only lessened, but the rigours of cold are moderated, by the contiguity of the ocean; for in high latitudes the countries bordering on the sea have always the mildest winters. The north-western coast of Norway presents an example of this mitigating influence. From these facts the following general conclusions have been drawn. A country, situated in either warm or temperate climes, "is rendered warmer, by having large tracts of land, and colder by having sea between it and the equator. This is reversed with regard to the regions extending towards the poles. The greatest cold, therefore, in our hemisphere, occurs when any country has a wide extent of sea to the south, and of land to the north. Such is the case with Greenland, which, in latitude 60 degrees, exhibits a more rigorous climate than Lapland, in latitude 72 degrees."

Winds tend to produce an equalization of temperature; and, consequently, the prevailing winds of a country have a great effect upon its climate. As these necessarily assume the characters of the regions over which they proceed, they are warm or cold, dry or moist, and affect the climate accordingly. The winds which constantly blow from east to west, between the tropics, render the eastern shores of a country colder than the western, when they sweep over the ocean; but the contrary when they traverse the land. Upon these principles the climate of the West India islands, and the eastern shores of America, is temperate in comparison with the western coast of Africa. The latter, for the same reason, is also much hotter than the eastern side of that continent. The difference between the eastern and western shores of South America, is much less than that of Africa, which arises from the winds from the east having swept over the snow-clad summits of the Andes, in their progress to the coast.

Amidst all the vicissitudes of temperature, produced by these varying causes, the heat generally decreases in proceeding from the equator to the poles. But the annual variations of temperature for each country are comprised within certain limits, and give a mean for each place, which is subject to little variation, while local circumstances remain the same. For, notwithstanding the sun's rays are nearly vertical in the torrid zone, its maximum temperature does not increase from one year to another; as any excessive accumulation of heat upon the earth's surface is prevented by the perpetual motion of the atmosphere. In proportion as the air of the equatorial regions grows warmer from the predominance of the solar influence, the polar wind rushes with more rapidity till it has destroyed the excess. The balance arising from the accession and consequent dispersion of heat, seems to have been long attained, and now regulates the gradation of climates in the successive latitudes. "The equilibrium of temperature preserved over the globe, by the circulation of the atmosphere, is not, however, very quickly produced. Hence, the remarkable increase of heat which takes place during the

summer months, in the higher latitudes. But within the arctic circle another powerful agent of nature is constantly tempering the inequality of the seasons. The vast beds of snow, or fields of ice, which cover the land and sea in these dreary retreats, absorb, in the act of thawing or passing again into their liquid form, all the surplus heat collected during a nightless summer. The rigour of winter, when darkness resumes her tedious reign, is likewise mitigated by the warmth evolved as congelation spreads over the watery surface."

The mean temperature of the air, and that of the interior of the earth, at any place, do not differ much from each other. "In the caves below the observatory at Paris, in 49 degrees of north latitude, and about 85 feet below the surface, Fahrenheit's thermometer constantly stands between 52 and 54 degrees, and scarcely ever varies two degrees; while at the surface the difference of temperature, between summer and winter, sometimes exceeds 90 degrees. In the salt-mines at Wieliczka, near 50 degrees of latitude, from the depth of 320 to that of 745 feet, the thermometer stands at about 50 degrees. At Cairo, in Egypt, latitude 30 degrees, at the bottom of Joseph's well, the depth of which exceeds 210 feet, the thermometer stands at 70 degrees. In the mines of Mexico, in 20 degrees of latitude, the temperature at the depth of 1650 feet was $74\frac{1}{2}$ degrees; thus it augments in approaching the equator."—*Lacroix's Geo. Physique*. The mean temperature of the air, near the surface of the earth, has also been ascertained at various places. At Paris and Cairo it was found to correspond nearly with the numbers above stated. At St. Petersburg, in latitude 60 degrees, the mean temperature is about 39 degrees. At Wadso, in Lapland, in 70 degrees of latitude, it was found to be about 36 degrees; and in the island of Mageöre, near the North Cape, the mean temperature of the year is stated, by M. *Von Buch*, to be nearly 32 degrees; the mean for every month in the same situation, is inserted at page 312 of this volume. According to M. *Humboldt*, the hottest places are on the southern shores of the Caribbean sea, and the gulf of *Guayaquil*, in the great equinoxial ocean, between two and three degrees of south latitude. There the mean heat is $81\cdot5^{\circ}$; and the thermometer sometimes rises to 106° . At *Belbeis*, in Egypt, the thermometer has risen to more than 125° in the shade; but this was occasioned by the hot wind, denominated *Sirocco*. At St. Petersburg, on the contrary, the cold is sometimes so intense as to congeal mercury. It has also been observed, at the same place, to rise above 90 degrees. The whole range, therefore, exceeds 130 degrees.

The celebrated and accomplished traveller, Baron *Humboldt*, has lately published, in the third volume of the *Memoires de Physique et de Chimie de la Société d'Arcueil*, an elaborate paper on *Isothermal Lines*, and the distribution of heat over the surface of the globe, in which he endeavours to draw several general conclusions from the great number of *Asculated* observations made by himself and others. Such an abstract of this valuable paper shall, therefore, be presented, as is most consistent with the popular nature of this Introduction.

By comparing together numerous observations made between 46 and 48 degrees of latitude, he found that the temperature at sun-set, was very nearly the mean between those at sun-rise and two in the afternoon, which are considered the coldest and hottest periods of the natural day. If this be equally true for other latitudes, it will greatly abridge the number of observations necessary for ascertaining the mean temperature. At the equator, this philosopher states it at $81\cdot2^{\circ}$ of Fahrenheit's thermometer. It had long been known, that the temperatures of different places on the same parallel of latitude are not equal, especially in Europe and America; but M. *Humboldt's* researches lead him to conclude, that the difference is less than was supposed. He finds that the isothermal line, (line of equal temperature,) or band, which is considered as 32 degrees of Fahrenheit's scale, or 0 of the centigrade thermometer, passes between *Ulea*, in Lapland, latitude $66^{\circ} 8'$, and *Table Bay*, in Labrador, latitude 54 degrees.

The line of 41 degrees, passes near Stockholm, latitude 60 degrees, and St. George's Bay, Newfoundland, latitude 48 degrees. The line at 50 degrees runs through Belgium, latitude 51 degrees, and near Boston, latitude 42° 30'. The line of 59 degrees runs between Rome and Florence, latitude 43 degrees, and near Raleigh, in North Carolina, latitude 36 degrees. The direction of the lines of equal temperature, therefore, gives the following differences between the West of Europe, and the East of America.

<i>Latitude.</i>	<i>Mean in the W. of Europe.</i>	<i>Mean in the E. of Ame.</i>	<i>Difference.</i>
30	..... 70·1	..... 66·8	..... 3·3
40	..... 63·1	..... 54·5	..... 8·6
50	..... 50·8	..... 37·9	..... 12·9
60	..... 40·0	..... 24·0	..... 16·0

M. *Humboldt* also states, in the PROLEGOMENA to his *Nova Plantarum*, that if the mean temperature of the equator be reckoned 1, half that temperature will be found on the old continent at 45 degrees, and on the new continent at 39 degrees. This difference will be better seen from the following small table.

<i>Latitude</i>	<i>Mean Temperature</i>	<i>Old Continent.</i>	<i>New Continent.</i>
0	1·00	1·00
30	0·77	0·70
40	0·63	0·45
45	0·48	0·30
50	0·37	0·12

There is nearly the same difference between the mean temperatures of the eastern and western parts of the old continent, as between the opposite shores of this and America, as appears from the following table.

	<i>Latitude.</i>	<i>Mean Temperature.</i>
St. Maloes	48 39	..... 54·5
Amsterdam	52 22	..... 53·4
Copenhagen	55 41	..... 45·7
Upsala	59 21	..... 41·9
Naples	40 50	..... 63·5
Vienna	48 11	..... 50·5
Warsaw.....	52 14	..... 48·6
Moscow	55 45	..... 40·1
Petersburgh	59 56	..... 38·8
Pekin.....	39 54	..... 54·9

The same philosopher then traces the isothermal lines across America, and concludes that in New California, and northward along the western side of that continent, the temperature is nearly the same as in similar latitudes on the western side of Europe. The distribution of heat through the different parts of the year differs in the same isothermal line, both in the old and new continents. For example, the heat at Madras is greater than at Cumana. In the temperate zone it has been long known that the cold of winter increases in a more rapid progression than the heat of summer diminishes. By comparing together a tract on the east, with one on the west side of the Atlantic, during the three winter and the three summer months, it is found that the difference between the two seasons increases most in the transatlantic district. But in both, the division of temperature between the winter and summer months is such, that upon the line of 32 degrees, the difference is double what it is on that of 68 degrees.

This learned writer then observes, "Europe may be considered altogether as the western

part of a great continent, and, therefore, as being subject to all the influence which causes the western sides of all continents to be warmer than the eastern. The same difference which has been observed between the two shores of the Atlantic, exists between the two opposite coasts of the Pacific. In the north of China, the extremes of the seasons are much more felt than in the same latitudes in New California, and at the mouth of the Columbia. On the eastern side of North America, the same extremes occur as in China. New York has the summer of Rome and the winter of Copenhagen; Quebec has the summer of Paris and the winter of Petersburg. In the same manner, at Pekin, which has the mean temperature of Britain, the heat of summer is greater than at Cairo, and the cold of winter as severe as at Upsal. This analogy between the eastern coasts of Asia and America sufficiently proves that the inequality of the seasons depends upon the prolongation and enlargement of the continents towards the poles, and upon the frequency of the north-west winds, and not upon the proximity of any elevated tracts of country."

The following Table exhibits a general view of this kind.

Places.	Latitude North.	Mean ann. Temp.	Mean Temperature.						Difference in the Heat of these Months.
			Winter.	Spring.	Summer.	Autumn.	Cooldest Month.	Hottest Month.	
Philadelphia.....	39° 56'	54·86°	33·98°	53·06°	75·2°	56·32°	32·70°	77·00°	44·30°
Pekin	39 54	54·86	26·42	56·3	82·58	54·32	24·62	84·38	59·78
Nantes	47 13	54·68	40·28	54·5	68·72	55·58	39·02	70·52	31·50
Rome	41 53	60·44	45·86	57·74	73·2	62·78	42·08	77·00	34·92
Paris	48 50	51·44	37·92	49·64	64·4	51·26	33·96	67·46	31·5
Quebec.....	46 47	41·72	14·18	38·84	68·0	46·04	12·74	73·4	60·6
Upsala	59 51	41·9	24·98	39·38	60·20	42·8	24·26	61·88	37·62

From the further researches of this Philosopher it is also evident, that the lines which mark the winter temperature deviate much more from the parallels of terrestrial latitude than those which indicate the mean annual temperature. In the climates of Europe, the latitudes of two places which have the same annual heat never differ more than 8° or 9°: while the difference of those that have the same winter temperature, sometimes amounts to 18° or 19°. The winter in Scotland is as mild, for example, as at Milan. The lines of equal summer heat follow a contrary order.

The same summer heat takes place at Moscow and at the Mouth of the Loire, though the former is 11° north of the latter. This circumstance is ascribed to the radiation of the earth in an extensive continent, and at a distance from large mountains. Ireland presents a remarkable union of mild winters and cold summers. The mean temperature in Hungary, for the month of August, is 71·6°; while in Dublin it is only 60·8°.

"With respect to the relation which subsists between the temperature of winter and spring, in different climates, it follows, from what has been above stated, that the increase of vernal temperature, is considerable, and likewise much protracted, where ever the distribution of the annual temperature among the different seasons is very unequal, as in the north of Europe and the more temperate parts of the United States; that the vernal increase is great but short, in the more temperate parts of Europe; that it is small, but protracted in islands; and that in the different bands of climate, enclosed between the same meridians, the vernal increase is smaller, and less protracted, in low, than in high latitudes."

In comparing the northern half of the globe with the southern, the same author observes, "The southern hemisphere differs considerably from the northern; but the degree of this difference has been variously stated. The coldness of the southern hemisphere has generally been attributed to the circumstance of the sun being a shorter time on the south, than on the north side of the equator. But it probably depends more upon the greater proportion of

ocean, which gives to the southern temperate zone a climate more approaching to that of a collection of islands. There is therefore a less accumulation of heat during the summer, and a less radiation from the land, in proportion to its less extent; and there is consequently a less current of warm air flowing from the equator towards the south pole, which permits the ice to accumulate more around it. Near the equator, and indeed through the whole of the torrid zone, the temperature of the two hemispheres appears to be the same; but the difference begins to be felt in the Atlantic about 22° of latitude; and there is a considerable difference between the mean temperature of Rio Janeiro and Havannah, though they are equally distant from the equator, that of the former being $74^{\circ}5$ and of the latter $76^{\circ}4$. The southern climates generally differ from the northern with respect to the distribution of temperature through the different parts of the year. In the southern hemisphere, under the isothermal lines of 45° and 50° , we find summers, which, in our hemisphere, belong to the lines $35^{\circ}5$ and 41° . We are not accurately acquainted with the mean temperature of any place beyond 50° of south latitude; but there is every reason to suppose that it differs considerably from the same degree of north latitude."

In his *personal Narrative*, this celebrated writer gives the following tabular comparison on this subject, in Fahrenheit's degrees.

Latitude.	Corresponding Months.	Mean temp. of the months.		Latitude.	Corresponding Months.	Mean temp. of the months.	
		Southern Hemisphere.	Northern Hemisphere.			Southern Hemisphere.	Northern Hemisphere.
0—15	December June	82° 4 ...	83° 3	.... ....	February August	62° 24 ...	62° 6 ...
18	October April	.... 81° 5	79° 3	° 43	July January	.... 59° 36	61° 76
22—26	January July	.... 72° 5	66° 74	48	June December	.... 44° 6	63° 86
.... ...	September March	.... 69° 44	68° 9	58	July January	.... 43° 16	56° 3
34	December June	.... 56° 84	59° 72	The observations employed in constructing this table were all made at sea, except those from which the mean temperature at 34 degrees was deduced, which were made at the Cape of Good Hope.			

In treating of the geographical distribution of plants, it is of importance to distinguish between the mean temperature of the year, and the mean of the summer months; as some of the vegetable tribes will arrive at perfection in a lower temperature if long continued, while others require a greater degree of heat for a shorter period.—This is shown in the following summary.

Mean annual temperature in each Continent.	Latitudes. A. America. E. Europe.	Mean heat of Summer.	Difference between the Temperature at the equator, and		Ratio of the mean annual and Summer Temperatures
			Mean annual Temperature.	Temperature of Summer.	
59° (Rome 60° 44)	A. 36° E. 43	80° 06 73° 4	54° 5 54° 5	33° 44 40° 1	1 : 1·7 1 : 1·5
50° (Paris 51° 44)	A. 42½ E. 49½	71° 24 64° 4	63° 5 63° 5	42° 26 49° 1	1 : 2·1 1 : 1·8
41° (Stockholm 42° 26)	A. 48 E. 60	67° 5 59° 18	72° 5 72° 5	46° 4 54° 32	1 : 3·9 1 : 3
0 (North Lapland.)	A. 54 E. 68½	53° 6 52° 7	81° 5 81° 5	59° 9 59° 0	1 : 12 1 : 11·5

Several eminent Philosophers have, by comparing together the various meteorological observations made on distant points of the globe, endeavoured to deduce a general rule by which the mean temperature at different parallels of latitude could be ascertained. The celebrated astronomer, *Tobias Mayer*, of Gottingen, was the first who connected the results in an harmonious manner ; and his rule has been since modified by others. From the tables thus calculated, (for which see Art. TEMPERATURK, CHAPTER V.) it appears that the mean temperature varies very slowly, both near the poles and the equator ; the whole range within the tropics, as well as within the arctic circles, being only about 8°.

Little comparative increase of heat is therefore experienced in advancing from the tropics to the equator ; and the intensity of the cold would not be greatly augmented on penetrating from the arctic circle to the pole. The existence of an open sea, at certain periods, towards the extreme north, is consequently rendered possible.

It should be observed, however, that when the general conclusions above referred to were deduced, correct observations within the polar circles were wanting ; and as the local circumstances of these regions are so different from those of all other parts of the globe, there was reason to suspect that anomalies existed towards the pole. But Mr. Scoresby's observations have put the matter beyond a doubt ; for he states that on reaching the regions of perpetual ice, the thermometer falls 17° below the mean temperature estimated by the formula.

On the other hand, the climate changes rapidly in the temperate zone ; and this gives rise to the great variety of vegetable productions with which these happier regions abound. France, for instance, stretching from the 40th to the 50th degree of latitude, and through a difference of temperature of about 9° of Fahrenheit, yields not only fine crops of wheat, barley, and oats, but supplies the richer productions of olives, grapes, and figs.

It may be easily inferred, from these statements, that the temperature of an island differs, in most instances, from that of a continent. Where the extent of land is great, the range of the thermometer corresponds. It is, therefore, much greater on a continent than on an island, though the mean annual temperature may be the same in both. The proximity of the ocean, by absorbing a part of the solar rays, very much affects the range of temperature in the latter instance. When the rays fall on the land, they are freely transmitted to the ambient air, or more slowly diffused through the exterior strata of the earth ; while those which fall on the surface of the ocean, are not immediately arrested in their progress, but penetrate the lower strata of the fluid. The transition from summer to winter, and from winter to summer, is, for this reason, less marked on islands than on continents. The range of insular temperature is also still more restricted by the prevalence of alternate land and sea breezes, especially near the tropics.

The diffusion of heat through the *interior* of the earth, is a subject which yet remains to be thoroughly investigated. Many interesting experiments have been made, which lead to the conclusion, that at a certain depth below the surface, the mean temperature at the same place remains constant. The greatest and least temperatures of the interior, do not correspond, in point of time, with those at the surface, but take place at later periods of the year. This is the natural consequence of the slow transmission of heat through the solid parts of the globe. Some experiments on this subject are stated (in the *Supplement to the Encyclopædia Britannica*, Art. CLIMATE,) to have been lately made in latitude 56° 10', in a soft gravelly soil, which changes into a bed of sand and water, at the depth of four feet. The thermometers were sunk to the depth of one, two, four, and eight feet, and the transmission from the surface appears to have been about an inch per day. The first of these thermometers never sunk lower than 33°, and indicated a mean temperature of 45°·5, which shows that the frost seldom penetrates to that depth. The nature of the soil, however, and external circumstances, must have a great influence on this penetration,

as has been proved by experiment. In the same article it is stated that, "in the neighbourhood of Edinburgh, after a long continuance of rigorous weather, the frost was found to have penetrated thirteen inches into the ground in a ploughed field, but only eight inches in one piece of pasture ground, and four inches in another. But in some of the streets of that city, the frost had descended even below two feet, so as to begin to affect the water pipes. The greater density and solidity of the pavement had no doubt conducted the frigorific impressions more copiously downwards, while the loose and spongy blades of grass had mostly scattered and wasted these impressions in the open field. This consideration, it is obvious, might lead to very important practical results."

The mean temperatures indicated by the thermometers, at the depth of four and eight feet, were $46^{\circ}\frac{1}{2}$ and $46^{\circ}\frac{3}{4}$; and the mean annual ranges of the four, in their order from the surface, were, 25, 20, 15, and $9\frac{1}{2}$ degrees. The smaller annual temperature of the upper thermometers, the writer thinks is satisfactorily accounted for by the coldness of the summers of 1816 and 1817, especially the former. On this subject, he also remarks, that "If the thermometer had been sunk considerably deeper, they would, no doubt, have indicated a mean temperature of $47^{\circ}\cdot 7$. Such is the permanent temperature of a copious spring which flows at a short distance, and about the same elevation, from the side of a basaltic, or green-stone rock. Profuse fountains and deep wells, which are fed by percolation through the crevices of the strata, furnish the surest and easiest mensuration of the temperature of the earth's crust. The body of water which bursts from the caverns of Vaucluse, and forms almost immediately a respectable and translucent river, has been observed not to vary in its temperature, by the tenth part of a degree, (centigrade) through all the seasons of the year. It is, therefore, an object highly important for scientific travellers, to notice the precise heat of springs in favourable situations, as they issue from their rocky beds. Such choice observations would accurately fix the medium temperature of the climate. It is only requisite to exclude the superficial and the thermal springs, which are not difficult to distinguish."

The leading principles in the decrease of temperature at different elevations above the earth's surface, have already been stated to be the diminished radiation of heat from the surrounding objects, and the increased capacity of air for its absorption. This diminution has been amply confirmed by experiment; and the law so well ascertained, that the thermometer may be employed for determining the approximate heights of places above the level of the sea. It has also been observed, that in moderate ascents and temperate climates, the mercury in the thermometer falls about one degree of Fahrenheit's scale, for 100 yards of ascent. This, however, is merely an approximation. In the higher regions of the atmosphere, an equal change of temperature takes place, with a smaller difference of latitude. Instead of 300 feet, as at the surface of the sea, 295 is sufficient to depress the thermometer one degree at the height of a mile; 227 feet, at the height of two miles; 252 feet, at the height of three miles; and 223 feet, at the height of four miles. According to this ratio, the temperature would be diminished $17\cdot 7$ degrees by ascending to the altitude of one mile; $36\cdot 1$ degrees at the height of two miles; nearly 60 degrees, at three miles, and $78\cdot 1$ at four miles. The change of temperature is less rapid, according to the circumstances which accompany the upper station, where the observation is made. The decrease is found to be greater on insulated mountains, than on an elevated plain of the same height; from there being less irradiation in the former case than in the latter. M. *Humboldt* found, in the torrid zone, when the superior station was a plateau, that one centesimal degree in the depression of temperature, answered to an elevation of 166 toises, but only to 123 toises, when the upper station was nearly insulated. If the mean temperature of the torrid zone were 22 centesimal degrees, it would therefore be reduced to nothing at an

elevation of 2700 toises; and the same effect would result in the middle of the temperate zone, where the height of the centigrade thermometer is about 10 degrees, by an elevation of 1200 toises. The observations made at the *hospice du St. Gothard*, give a mean temperature still less, as it is there one degree below the freezing point. This result, compared with the extreme temperatures observed at St. Petersburg, verifies the difference that takes place between the mean temperature, and half the sum of the two extremes; for upon mount St. Gothard, the thermometer neither descends so low, nor rises so high as at St. Petersburg.

To compare the effects of an increased elevation on the temperature of the air, with those arising from an augmentation of latitude, it will be sufficient to collect some of the mean temperatures at different latitudes. Accordingly we find that

In North Latitudes	0	20	45	60 and 65 degrees.
The Temperatures are.....	81½	79¼	54¼	43 and 32 degrees.

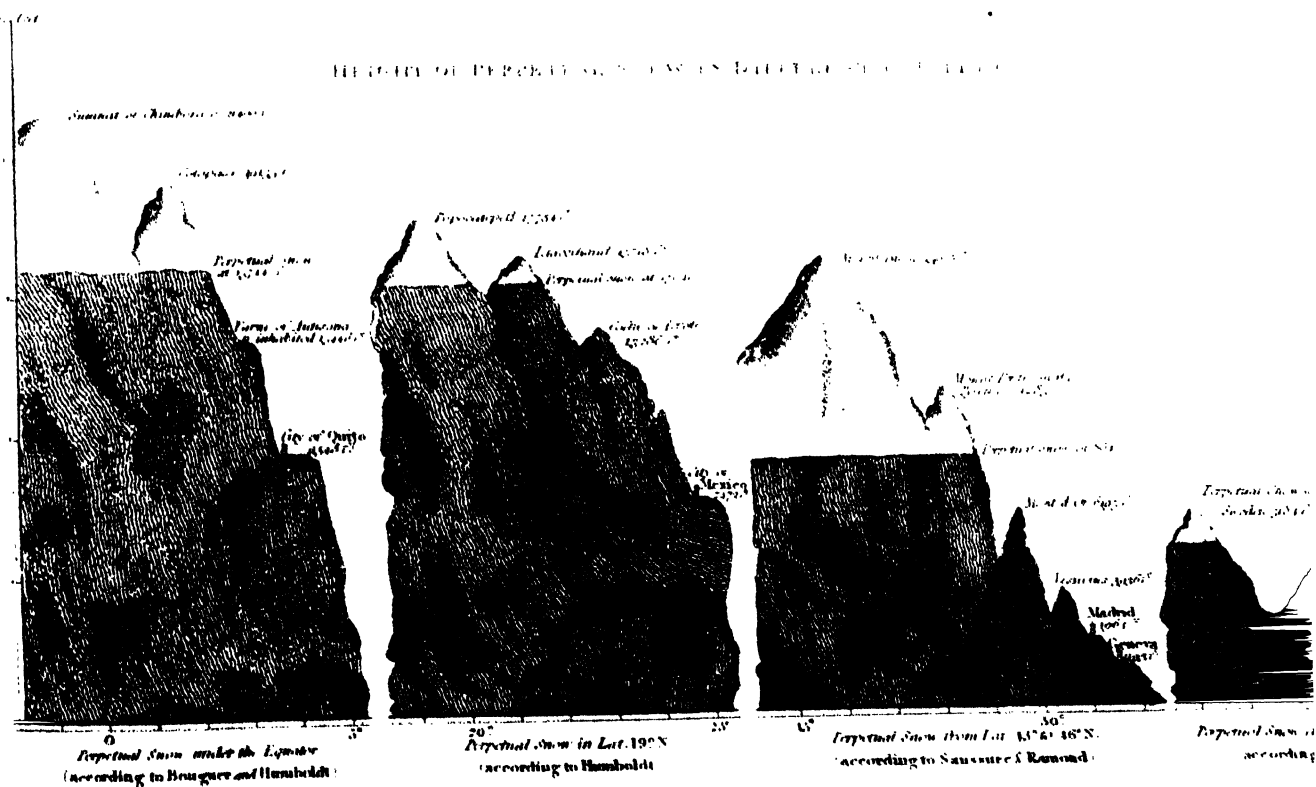
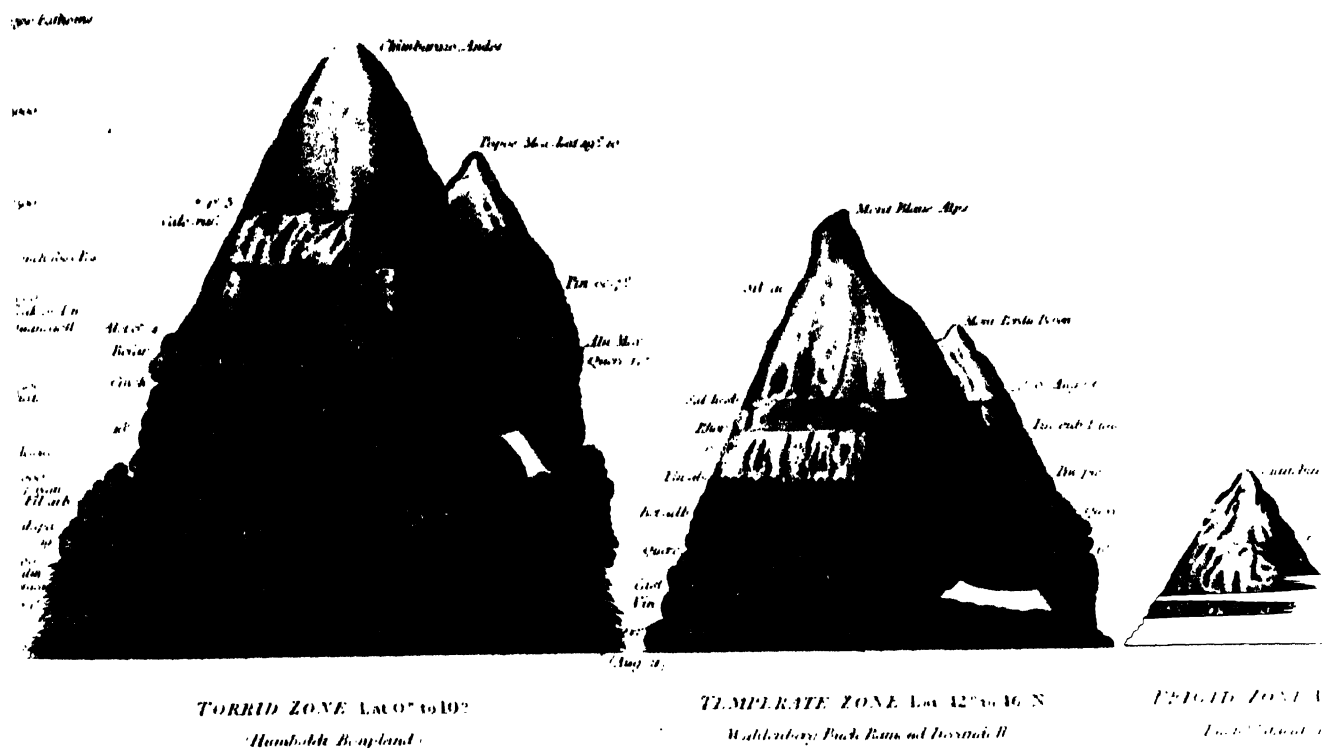
From these results it follows, that the elevation of mount St. Gothard, in latitude 46¼ degrees, produces an effect in the augmentation of cold, almost equal to 20 degrees of latitude. Madrid and Genoa, present a strong example of this difference. The former city is situated four degrees of latitude south of the latter, but it stands upon an elevated plain, while Genoa is seated at the level of the sea, and sheltered on the north by the Alps. The mean temperature at Madrid is less by four degrees and a half than that of Genoa.

Since the temperature decreases as we ascend the atmosphere, there must be an elevation where constant frost takes place. This evidently varies with the latitude, as the requisite decrease of temperature also depends upon that cause. This curve is the highest at the equator, and touches the earth at the poles, or perhaps before it reaches those points, and is called, *the line of perpetual congelation*. The mountains which rear their lofty summits above this limit, are, therefore, covered with perpetual snow. The different heights of this limit have been calculated and arranged in Tables for the convenience of reference. See CONGELATION, CHAP. V. M. Humboldt thinks, that the limit of perpetual snow should not be confounded with the line at which the temperature is equal to zero, of the centigrade, or to 32 degrees of Fahrenheit's thermometer. In the torrid zone, he observes, perpetual snow commences at an elevation where the mean temperature is about one centesimal degree above the freezing point. The snow maintains its situation notwithstanding this temperature, because it always falls as fast as it melts. But in the temperate zones, where the quantity of aqueous vapours is much less, and the days in summer much longer, perpetual snow commences only at an elevation where the mean temperature is five degrees of Fahrenheit lower than the freezing point. Below this, the snow melts during the summer months, when the temperature differs considerably from that of winter.

The same learned writer has given the following Table of the mean temperatures at different heights between the tropics of the New Continent.

Height in Fathoms.	SOUTH AMERICA, between lat. 9 and 10 deg. N. and S.		MEXICO, between latitude 17 and 20 deg. North.	
	Mean annual Temperature.	Variation in the temperature of the whole year.	Mean annual Temperature.	Variation in the temperature of the whole year.
0	81.5	52.7 Cumana	78.8	60.8 Vera Cruz
500	68.9	54.9 Caraccas	67.64	Encero
1000	64.4	Popayan	64.4	71.6 Valladolid
1500	56.3	60.8 Quito	57.2	Real del Monte
2000	44.21		45.5	
2500	34.7	66.2 Pichina	30.2	

DISTANCE OF VEGETABLES



The higher we ascend above the level of the sea, and the further we advance from the equator, the greater is the transition between the temperature of the different seasons of the year. The following Table exhibits this difference between the two hottest and the two coldest months in various latitudes.

	<i>Latitude.</i>			<i>Difference.</i>
Cumana.....	10	27	.....	4°32
Vera Cruz.....	19	11	.....	10°8
Havannah.....	23	8	.....	13°32
Natchez.....	31	28	.....	31°32
Philadelphia.....	39	56	.....	44°3
Quebec.....	46	47	.....	49°4
Nain.....	57	0	.....	63°5

The following heights at which snow begins to fall, and of the lower line of perpetual congelation at the latitudes 0, 20, and 40 degrees north, have been found by observation. The temperatures annexed, are those at the earth's surface. This statement agrees with the ordinary state of nature; but several exceptions, founded on local circumstances, exist.

Latitude.	Lowest height at which Snow falls.	Inferior limit of perpetual Snow.	Difference of the two preceding columns.	Mean Temperature.		
Degrees.	English feet.	English feet.	English feet.	Cent.	Reaum.	Fahren.
0	13,046	15,730	2,684	27°	21° 6	80° 6
20	9,912	15,090	5,718	24° 5	19° 6	76° 1
40	0	9,848	9,848	17	13° 6	62° 6

The annexed plate affords a more lively representation of the height of perpetual snow in different latitudes, than can be conveyed by verbal description.

From the almost indefinite variety in the surface of the globe, and the great effect of radiated heat, it is obvious that all general conclusions on the subject of isothermal lines, can only be approximations. These will be more or less correct, according to the number of the facts from which they are derived; but after all that human research can accomplish, anomalies will doubtless exist, and the line of perpetual congelation, for instance, will by no means form a regular curve. Observations the most indisputable have already proved, that distance from the equator, is only *one* of the elements by which this curve is regulated. Radiation has obviously a powerful influence. The insulated mountain, and the elevated plateau must, therefore, have very different effects. The Peak of Teneriffe and the Table Land of Mexico,—the Cordilleras of South America, and the immense Table Land of Tartary,—exhibit physical circumstances so various, that the lower limit of congelation cannot be expected strictly to follow the same law on each. Observations, indeed, have shown that a striking difference exists. This line was found by actual experiment, on the side of Chimborazo, nearly under the equator, to be 15,746 feet, and on the mountains rising out of the plain of Mexico, in the 20th degree of latitude, to be 15,090 feet. This gives a difference of 656 for twenty degrees of latitude; which, according to the table lately computed by Professor *Leslie*, ought to have been 1729 feet. Local causes have, therefore, raised this line 1073 feet above the point which the general theory assigns to it.

The most complete anomaly of this kind, however, which has yet been discovered, results from the observations lately made on the Himalaya range by Captain *Webb*. This ingenious officer determined the height of the Nitce Pass, on the northern verge of the great Himalaya

chain, and about the 30th parallel of latitude, to be 16,914 feet above the level of the sea. Yet not a vestige of snow appeared at that time on the Gaut, nor on the projecting shoulder of the mountain, which rose above 300 feet above the Pass; so that the line of perpetual congelation is at least 17,000 feet above the level of the sea, or 1253 feet higher than the same line on the side of Chimborazo, and more than 5500 feet above what Mr. Leslie's Table assigns to it. On the southern side of the same ridge, the line descends lower; yet at an elevation of 12,700 feet, snow was not visible, "and the black soil was clad with creeping plants, and flowering herbs in luxuriant abundance." Captain *Webb* ascertained the village of *Milem*, in latitude 3° 25' to be 11,512 English feet above the sea, and the temple of the same name to stand at 11,700 feet above that level; yet the space between these, although several hundred feet within the theoretical line of perpetual snow, was occupied by flourishing fields of buckwheat, and Tartaric barley. In reference to another point, which was found to be 11,790 feet in height, Mr. *Colebrooke* says, "The encampment where the observation was made, was surrounded by flourishing woods of hoary oaks, long-leaved pine, and aborescent rhododendron; and the surface was clothed with a rank vegetation of herbs." Such are the effects of radiation, and such the anomalies presented by those elevated regions. The great plateau of Tartary, though, according to Captain *Webb's* observations, at the enormous elevation of 15,000 feet, is so far from being buried, as theory would suggest, beneath perpetual snow, that the banks of the river *Sutledge* afford the finest pasturage for myriads of quadrupeds throughout the year.

The following Table, formed by M. Humboldt, exhibits the most remarkable circumstances respecting the three zones.

	Torrid Zone.		Temperate Zone.				Frigid Zone.
	Lat. 0 deg. Andes Quito.	Lat. 20 deg. Mount of Mexico.	Caucasus Latitude 42½ degrees	Pyrenees Latitude 42½ degree	Alps Lat. 45½ to 46 deg. N. Aspect. S. Aspect.		Lat. 57½ to 78 deg. Lapland.
Inferior limit of perpetual Snow.....	2460 fath.	2350 fath.	1650 fath.	1400 fath.	1370 fath.	1370 fath.	550 fathoms.
Mean annual temperature at that height ..	34·7			25·7	24·8		21·2 Fahrenheit.
Mean temperature of winter at that height..	34·4				14		4·9
Mean temperature of August at that height..	35·15				42·8		49·1
Distance between trees and Snow.....	660 fath.	350 fath.	650f.	230f.	450f.	320f.	300 fathoms.
Upper limit of trees ..	1800f.	2000f.	1000f.	1170f.	920f.	1050f.	250f.
Last species of trees towards the Snow ..	Escalonia Alstonia.	Pinus occidental	Betula alba.	Pinus rubra Puncin.	Pinus abies.	Pinus Larix.	Betula alba.
Upper limit of the æricineæ	Befariæ (1600f.)		Rhodod. caucas. (1380f.)		Rhodod. ferrug. (1170f.)		Rhodod. Laponicum. (480f.)
Distance between the Snow and corn.....	860f.		630f.		700f.		450f.

In immediate connexion with this subject is the formation of **GLACIERS**. The curve of perpetual congelation must evidently vary with the seasons, as well as with local circumstances ; rising in summer, and descending in winter. It thus oscillates between certain limits of elevation, and forms a belt where winter holds a doubtful sway. This belt also varies in breadth with the latitude, for, as the previous statements clearly demonstrate that there is a much greater difference between the temperatures of summer and winter, in one place than another, consequently, there must be a corresponding difference in this vertical region of unsettled frost. As the variation of temperature during the year is but small in the tropical regions, the breadth of this belt, there, is very narrow ; but it increases with an increasing distance from the equator. It is upon this zone, where the snows are alternately accumulated and dissolved, that the formation of *glaciers* depends. The vast masses of snow that lodge on the flanks of the mountains are melted and congealed in succession, till they become solid ice, to which each revolving season brings an addition, till the whole frequently assumes the most stupendous and fantastic forms. At length the accumulating pressure becomes too great for its support, the enormous pile is severed from its native seat, and precipitated, with the most tremendous crash, to a lower station, where the work of dissolution gradually proceeds, at least for a considerable portion of the year, though the existence of the mass is frequently protracted for centuries. Meanwhile, the same process is still going on in the higher regions ; each year as it rolls sees the towering bulk rise in all the variety of forms which the most irregular action can produce, till it is dissevered from its bed, and follows its predecessor. Thus the succession of production and decay is perpetually maintained.

Scarcely a vestige of a glacier has ever been discovered within the tropics, as the zone of undecided frost is there too narrow for their formation, but in higher latitudes, they constitute a distinguishing feature in the aspect of lofty mountains. They frequently hang along the flanks of the Pyrenees ; are formed in still larger masses on those of the Alps ; and stretch within the Arctic circle. The coasts of Norway and Lapland, and the dreary island of Spitzbergen, present scenes of desolation of this description which cannot be conceived by those who have not seen them.

Among the varying phenomena that exercise an influence on the physical geography of the globe, there are none, perhaps, more important, or more powerful, than the *movements of the atmosphere*. By these the dispersion of accumulated heat is effected, the equilibrium of temperature promoted, and the diffusion of aqueous vapours over those regions where they are most needed, and their effects are most beneficial, greatly facilitated. Mobility is one of the most characteristic qualities of the atmospheric fluid. Whatever destroys its equilibrium produces currents of various extent and velocity. These are denominated **WINDS** ; and are generally arranged under three heads. Those that blow *constantly* in the same direction, those which are *periodical*, and those that are *variable*. In speaking of the direction of the winds or currents of the atmosphere, it should be remarked, that custom has assigned to the words by which they are denoted, a sense directly opposite to their meaning when applied to currents of the ocean. The wind is designated by the point of the compass from which it *comes*, a current of the sea by that to which it *flows*. The atmosphere exhibits two general and constant movements. The one in the torrid zone, transports the air from east to west, in a direction corresponding with the general motion of the sea ; the other, which is particularly sensible in the temperate zones, is a general tendency of the air from the poles to the equator. This last also produces two constant polar currents, similar to those which have already been noticed in the ocean.

The permanent winds are those which blow constantly between the tropics, and are called *trade winds*. They sweep with unabated and wonderful regularity, at all seasons, across

the equatorial regions, both of the Atlantic and the Pacific Oceans. On the north side of the equator, their mean direction is nearly north-east, from which they never deviate more than one or two points of the compass, either to the north or south. On the south side their direction is south-east, with similar variations. Between these two regions there is a zone where neither wind prevails, but where they are replaced by calms, which, however, are frequently interrupted by violent gales. This zone extends from about the 2d to the 5th degree of north latitude, with some variations, seemingly occasioned by the passage of the sun from one tropic to the other. It may, therefore, be denominated the interior limit of the trade winds. (Their exterior boundaries are still more variable), extending from 28° to 30° , as the sun is on one side of the equator or the other. On the coast of America, where the trade wind extends much farther than on that of Africa, its influence is sometimes felt as far as the 40th degree of north latitude. The following perspicuous explanation of these winds, which was given by the late Professor *Playfair* in his *Outlines of Natural Philosophy*, is at once so satisfactory and philosophical, that we do not hesitate to present it to the attention of the reader.

“ In order that an equilibrium may take place in an elastic fluid, circumfused about a solid to which it gravitates, every level stratum of the fluid, that is, every stratum, which, when continued round, cuts the directions of gravity every where at right angles, should be of the same density, and, therefore, of the same temperature. As this is not the case, the equilibrium of the atmosphere is inconsistent with the actual distribution of heat on the earth's surface. The general tendency, in such circumstances, is for the heavier columns to replace the lighter, and for the air at the surface to move towards the equator. The only supply for the air thus constantly attracted from the higher latitudes, must be produced by a countercurrent in the upper regions of the atmosphere, carrying back the air from the equator towards the poles. The quantity of air transported by these opposite currents, is so nearly equal, at the average weight of the air, as measured by the barometer, is the same in all parts of the earth. If the surface of the earth were wholly covered with water, so that there was no part of it more disposed than another to obstruct the motion of the air, or that had a greater capacity than another, of acquiring or communicating heat, the air would probably circulate continually in this manner, from the poles to the equator, and back again, without any irregularity whatever.

“ In consequence of the rotation of the earth about its axis, another motion is combined with that of the currents just described. The air, which is constantly moving from points where the earth's motion on its axis is slower, to those where it is quicker, cannot have precisely the same motion eastward, with the part of the surface over which it is passing, and therefore must, relatively to that surface, describe a curve, having its convexity turned towards the east. The two currents, therefore, from the opposite hemispheres, when they meet toward the middle of the earth, have each acquired an apparent motion westward; and as these respective motions from north and south must destroy each other, nothing will remain but this motion, by which they will go on together, and form a wind blowing directly from the east.”

The direction of the trade winds inclines towards the parallel to which the sun is vertical at different periods of the year. When the sun is on the north side of the equator it tends rather to the north, and when he occupies the southern signs of the zodiac, the points to which the motion is directed, veer a little towards the south. This wind does not form an impetuous gale, but is a steady pleasant breeze, the velocity of which is about six or seven miles an hour.

Constant and regular as the trade winds are, however, they are not entirely destitute of anomalies. On the coast of Guinea, for about 500 leagues from the shore, south of Sierra

Leone, a constant wind prevails from the south and south-west, veering west as it approaches the land. This seems to be only a partial current of the trade wind, drawn towards the vast continent of Africa, where the air is so much rarified by the action of the solar beams, reflected from the burning sands of the interior. In the great Southern Ocean, where no obstacles prevent the general movements of the atmosphere from developing themselves, the trade winds are so regular and strong that, if there were a strait through the isthmus of Panama, a voyage across the Atlantic and the Pacific Oceans would be the quickest and safest passage from Europe to China. The Spanish vessels, which sail annually from Acapulco, on the western coast of Mexico, to the Philippines, are impelled forward by such a steady and prosperous gale, that the voyage, which is nearly equal to half the circumference of the globe, is frequently performed in sixty days, without either attention or skill being required in the navigators. This wind is less powerful near the western coasts of America, than on the opposite side of the Great Ocean, where it extends to the 40th. degree of north latitude. It is, however, impossible to return from the Philippines to Mexico by the same route. They are, therefore, obliged to steer their course towards the north, till they arrive at the region of the variable winds, and then tack for the north-west coast of California, whence they gain the port of Acapulco.

In the Indian Ocean the uniformity of this grand movement of the Atmospheric fluid is interrupted by the Periodic winds denominated Monsoons. These blow with great force in one direction nearly half the year; and towards the opposite point during the remainder. They commence about the 10th degree of south latitude, and extend, more or less, according to circumstances, to the north of the equator. The change from one direction to the other is attended by variable winds and hurricanes, which render navigation very dangerous at these periods.

During the Months of April, May, June, July, and August, the wind, along the coasts of Arabia to the bottom of the Bay of Oman, blows steadily from the south-west; and in the months of October, November, December, January, and February, from the north-east. Along the western coasts of Sumatra, the south-west wind prevails from May to July, and the north-east from November to January. But during the intervals the winds are variable. In the space comprised between the eastern peninsula of India, the island of Borneo, and the adjacent islands, the winds blow from the south-west from April to the end of June; and in a contrary direction from October to the end of February. These monsoons regulate the voyages to China, which become impracticable when the wind is contrary. The Navigation of the Red Sea is also regulated by these periodical winds; for there the wind blows from the north-west from April to October, and from the south-east during the rest of the year. Their direction is therefore sensibly parallel to the shores of that sea. The south-west wind in the Indian ocean is often accompanied by rain and tempests; while that from the north-east is more gentle and agreeable. "Thus, in winter, the atmospherical constitution presents these principal elements. North-east winds prevail on the north of the equator; and north-west, on the south of the line, as far as the 10th parallel of latitude; and the trade wind from the south-east. In summer the phenomena are less contradictory: the south-west winds blow from the 10th parallel to the northern boundaries, and the trade winds to the south of the 10th parallel." These general dispositions, however, are subject to various modifications, from the configuration and elevation of the coasts, the straits and currents of the ocean, and possibly from other local causes. These winds seem to advance more to the north with their progress westward, as they prevail between the coast of Africa and the island of Madagascar. Nor are they wholly unknown on the other coast of Africa, and the opposite shores of America between the tropics, but they are less powerful and more unsteady.

To this class of periodical winds must also be referred the land and sea breezes which succeed each other in many of the maritime districts of the tropical regions, both continental and insular. The sea breeze is the great modifier of the solar influence; and in many places in the torrid zone, the temperature, without this mitigation, would be almost insupportable. As the solar rays are more reflected during the day, from the land than from the water, the atmosphere, in consequence becomes more heated and the breeze acts in from the sea; but a contrary effect takes place for the greater part of the night, and the wind blows in an opposite direction. This wind generally prevails from ten in the morning till six in the afternoon; thus diffusing an agreeable freshness over these sun-parched regions during the greatest heats of the day. The land breeze blows from seven in the evening to about eight in the morning, filling up nearly the remainder of the 24 hours. The shores of the Mediterranean also enjoy a slight sea breeze in the heat of summer.

The VARIABLE winds, which occupy the temperate regions of the globe, blow from every point of the compass, and are subject to such vicissitudes both of force and direction that it would be altogether inconsistent with the present design to attempt to delineate them. Whatever occasions a change of temperature in a part of the atmospheric fluid, causes a variation in its pressure and produces a motion in the adjacent parts, in order to restore the equilibrium. The change of the aqueous particles from an elastic vapour, to a condensed state, and their subsequent precipitation in the form of rain, produce a partial vacuum which requires a movement in the adjacent parts of the atmosphere to restore. These, with the influence of the electric fluid, and perhaps various other causes, some of which may yet remain unknown, are combined and modified in such an indefinite variety of ways that they render the winds of these temperate regions wholly inexplicable, and stamp them with a character which has become the symbol of inconstancy. In most places, the wind blows longer from one quarter or point of the compass than another. From the Journal of the Royal Society it appears that at London, for example, the south-east wind blows, on an average, about 112 days in the year, and the north wind only about 16 days. At Paris, the number of days, on which the south-east wind prevails, is about 175; the east wind only about 10. At St. Petersburg, the wind is still more unsteady, and that from the west, which is the most frequent, seldom exceeds 72 days in the year; while the south-east, which is the least frequent, is about 30. It has been supposed that the atmosphere was subject to regular tides like the ocean, and that these periodical oscillations might exert a considerable influence in the production of wind; but M. Laplace has proved that the species of tides produced in the atmosphere, by the action of the moon, is very small; since the elevation and depression of this fluid, which must take place every 24 hours, never effects the height of the mercury in the barometer so much as a single line. The rarity of the air is doubtless the cause of this diminished action; as its specific gravity compared with that of water, taken as unity, is only about $\cdot 00122$.

The strength and velocity of the atmospheric movements are also subject to great variation; and as they are so intimately connected with the physical climates of the globe, they require an explanation. The difference between that slight agitation which produces the gentle zephyr, and that impetuous commotion which constitutes the hurricane, is extreme. The former moves with the velocity of one or two miles per hour, and exerts a force of less than half an ounce on a square foot of surface, perpendicularly opposed to its direction; the velocity of the latter, is sometimes 100 miles in the same time, and the pressure on an equal space, more than 50 pounds. M. Lalande stated the velocity of the trade winds, to be six or seven miles per hour; and a brisk wind at sea, proceeds at the rate of twelve or fifteen miles in the same time. M. Bouguer found the velocity of high winds, in winter, to be about 34 miles

per hour, and in summer to exceed 43. But the most decisive experiment on record, relative to the velocity of a strong wind, is the rapidity of the aeronautic voyage of the celebrated M. *Garnerin* and Captain Sowden. On the 29th of June, 1802, they ascended from Ranelagh, on the west of London, with a strong, though not an impetuous wind, and in less than three quarters of an hour, descended near Colchester, at least 60 miles from the place of their ascent; so that the velocity of the wind, admitting it not to be greater than that of the balloon, must have exceeded 80 miles an hour. See Art. WIND, in CHAP. V.

Nature, who never works in vain, had numerous purposes to answer, by the perpetual agitation of this aerial fluid; the *utility* of which must be obvious to every reflecting mind. Winds purify the atmosphere by the motion they create; they dissipate the effluvia exhaled from morasses and stagnant waters; and they raise and transport the clouds destined to fertilize the earth, by the distribution of these watery treasures. Millions of the minute seeds of vegetables, being furnished with small sails, float on the wings of the wind, and extend the empire of vegetation. Man, with an immense saving of labour, also converts it into a first mover, in giving motion to machinery which genius has invented, and industry applied to the practical purposes of life. The ocean may justly be considered as the great *highway* of the globe; and the winds are the indefatigable agents that impel our vessels to every quarter.

The *state* of EVAPORATION must necessarily depend upon the temperature and agitation of the atmosphere, as well as upon the humidity of the evaporating surface. The first effect of this invisible operation which presents itself is, that when water is exposed to the influence of the atmosphere, either in an open vessel, or a natural reservoir, without receiving any fresh accessions, its quantity continually diminishes, and in time, it would altogether disappear. The water is not destroyed by this process; but merely changes its mode of existence, passing from a liquid to an invisible vapour, which mixes with the atmospheric fluid in greater or less quantities, according to its temperature and density. This has been fully established, by carefully observing at various places, the quantity of water evaporated from a given surface, and marking, at the same time, the respective heights of the barometer and thermometer, with the state of the wind.

In the temperate zone, and with a mean temperature of about nine degrees of Reaumur, or 52·25 of Fahrenheit, the annual evaporation has been found to be about 36·75 inches. At Cumana, in the torrid zone, with a mean temperature of about 81·5 of Fahrenheit, the evaporation, from experiments made in the shade, was found to exceed 100 inches annually. At Guadaloupe, one of the West Indian islands, the annual evaporation was ascertained to be about 97 inches. At Mexico, at the elevation of 7470 English feet, and with a temperature of from 60 to 64 degrees, the mean evaporation is said to exceed that at Cumana, which proves the powerful influence of other causes, independently of temperature. Dr. *Wistar* has shown, in the transactions of the American Philosophical society, that evaporation proceeds with the greatest rapidity, when the temperature of the moist body is higher than that of the medium in which it is enclosed. He considers this to be effected by the transmission of caloric from the body to the air. The great degree of radiation that takes place on the elevated plain of Mexico may, therefore, account for the extraordinary evaporation above stated. From the experiments of Colonel *Williams*, the quantity of evaporation at Bradford, in New England, was found to be 42·65 inches. When the ground is covered with trees and other vegetables, the evaporating surface, and consequently the quantity of evaporation, is greatly increased.

Evaporation has been the subject of many curious researches, but that which relates to the equality between the quantity of water discharged by rivers, and the expenditure occasioned by evaporation, is the most intimately connected with the present subject, in reference

to which M. Lacroix, in his *Geographie Physique*, observes, "To give an idea of this, I shall consider what takes place with respect to the Caspian sea, which does not communicate with any other. The extent of that sea is estimated at 12,000 square leagues; and as it is situated in the temperate zone, the evaporation of its surface may be taken at the medium quantity above stated for that zone. According to this hypothesis, the Caspian sea would annually lose a mass of water, whose base is equal to its surface, and its thickness 414 French lines, or very nearly 37 English inches. Now the square league contains about 8,000,000 square toises (each equal to 6.396 English feet), but, for the sake of employing round numbers only, we shall take half a toise instead of the 414 lines. The volume of water evaporated from each square league, will, therefore, upon these principles, be 4,000,000 cubic toises. Hence the quantity from the whole surface is 12,000 times this number, or 48,000 millions of cubic toises; which gives 131 millions for the mean daily evaporation. This quantity must, therefore, be compared with that which the rivers discharge into this sea. With a view to simplify the estimation, we shall suppose that the whole of this water is discharged by one river having a mean depth of two toises immediately above its mouth, where its velocity is a quarter of a toise per second. It would, therefore, require four seconds to discharge a column of the fluid a toise in length; and as the day consists of 86,400 seconds, there would be discharged, during that period, a mass of fluid equal to 21,600 toises in length. Multiply this number by the depth of two toises, (supposing at first the breadth to be only one toise,) and the whole quantity discharged by this river, would be 43,200 cubic toises. Then, by dividing the whole of the water evaporated by this number, it gives 3000 toises for the breadth of the channel by which the equilibrium of the waters would be restored. To ascertain how far this condition is fulfilled, it would be requisite to know the mean section of each of the rivers which fall into that sea a little above their junction with its waters, and their mean velocities at those places; but these are yet unknown. It appears, however, from the above estimate, that the evaporation of the Caspian would require a supply that it may always maintain the same level, nearly equal to one hundred times the quantity which the Seine rolls through Paris. In estimating the return of water to this sea, however, the quantity which descends in the rain that falls on its surface, must be taken into the account. This, according to M. Humboldt, at the latitude of 45 degrees, which passes through the Caspian, and the mean temperature of 68 degrees, is annually about $27\frac{1}{2}$ inches, which, taken from the thickness of the stratum evaporated, leaves $9\frac{1}{2}$ inches, or only $\frac{1}{4}$ th of the whole to be supplied by the influx of all the rivers which discharge their tributary contents in this sea."

The water that ascends into the atmosphere by means of evaporation, neither remains suspended there nor continues in the same state. It is, at first, in the form of an invisible vapour, which has little effect on the transparency of the air; but a variation of temperature, the influence of electricity, and several other causes, soon change its invisibility, and condense it into clouds. As these causes of condensation proceed, the clouds descend to the lower regions of the atmosphere till, by uniting, the aqueous particles become too dense for the air to support, and fall in the form of RAIN. This condensed vapour is also converted into snow or hail, as congelation takes place in an earlier or later stage of the condensation. The quantity of rain that falls upon the earth is measured by the height to which it would rise if retained undiminished on the surface. An inch of rain has fallen, for example, when the water has risen to that height in a prismatic vessel in which it is collected. Various observations have been made on this subject, in different countries, and the results compared together. M. Cotte, has done this, in the *Journal de Physique*, for 1791, for the mean quantity at 147 places, situated between the 12th and 60th degree of north latitude. The medium of all these results

is about $31\frac{1}{2}$ inches. This, however, is by no means the medium between the extremes, as is sufficiently obvious from the following quantities.

Inches of Rain.

At Grenada, one of the West India islands, and situated in 12 degrees of latitude, there falls annually	112
At Port St. Louis, in the isle of France, in 20 degrees of north latitude, the annual quantity is	32
At Rome in latitude 42, the quantity is	35.7
At Paris, in 49 degrees of latitude	20.8
At Upsal, in 60 degrees of north latitude	15.5

On taking a general view of the subject, it appears that a much greater quantity of rain falls in the torrid, than in the temperate zones. This corresponds with the state of evaporation, which is also greater in the former than in the latter. Yet the number of rainy days in the year, near the equator, is much less than in higher latitudes; but then the rain descends in comparative torrents. From causes of the same kind, the quantity of rain is greater in summer than in winter. In mountainous countries the rains are more frequent and heavy than on plains. There are several countries of the latter description, where it seldom or ever rains. Egypt, and various other places in Africa and Asia, with a district on the west of the Andes in South America, are all nearly destitute of rain. A good idea may be formed of the difference produced by local causes, from the fact, that in London the annual quantity of rain seldom exceed 20 inches, while at Kendal, in Westmoreland, it exceeds 50. M. *Humboldt*, has collected the mean quantity of rain that falls at different latitudes, and the mean temperature of these latitudes, from which he concludes, that

Under the equator, the mean temperature being $81^{\circ}5$, the average quantity of rain is	96 inches.
At 19 degrees of north latitude, where the annual temperature is $79^{\circ}25$, the mean quantity is	80
At 45° of north latitude, the mean temperature being 68° the quantity is about	27.75
And at 60° , mean temperature $38\frac{1}{2}^{\circ}$, the quantity is	17

To afford a clearer idea of the manner in which these aqueous vapours return to the earth, and of the periodical inundations which they produce, it will be necessary to take a brief view of the rains which descend at stated periods. In the temperate zones they fall, though not equally, at all seasons of the year, and with all directions of the wind; but in the tropical regions only at certain times. Africa not only contains a greater mass of land between the tropics than any other of the continents, but the effects of its periodical rains, in the inundations of the Nile, have always been the most celebrated. In the northern part of the tropical region on this continent showers begin to fall in April, and increase both in number and magnitude, in May; but it is not till June that the torrents descend, which continue, almost without intermission, for three months. The appearance of the country undergoes an immediate change. The gentle rivulets swell into impetuous streams; the rivers overflow their banks; while the sun-parched and desolate plains become temporary seas. In September the rains begin to abate, and, soon after, finally cease. The clouds disperse; the sun, which had not been seen for months, now re-appears, and the watery wastes are quickly converted into regions of the most luxuriant vegetation. From this time, till the following April, no more rain falls. On the opposite side of the equator, the order of the seasons is reversed; the rain commences in October and continues till March; and the dry season occupies the remainder of the year.

In the southern regions of Asia, the rains accompany the south-west monsoon, which, as already stated, continues from April to October. Mr. *Elphinstone*, in his *account of the kingdom of Cabul*, describes the commencement and continuance of these monsoons in the following animated language. "The approach of the monsoon is announced by vast masses of clouds that arise from the Indian ocean, and advance towards the north-east, gathering and thickening as they approach the land. After some threatening days, the sky assumes a troubled appearance in the evening, and the monsoon sets in generally during the night. It is attended by such a violent thunder storm as can scarcely be imagined by those who have only witnessed the phenomena in a temperate climate. It generally begins with violent blasts of wind, which are succeeded by floods of rain. For some hours lightning is seen without intermission; sometimes it only illuminates the sky and shows the clouds near the horizon; at others it discovers the distant hills and again leaves all in darkness, when in an instant it re-appears in vivid and successive flashes, and exhibits the nearest objects in all the brightness of day. During all this time the distant thunder never ceases to roll, and is only silenced by some nearer peal, which bursts on the ear with such a sudden and tremendous crash, as can scarcely fail to strike the most insensible heart with awe. At length the thunder ceases, and nothing is heard but the continual pouring of the rain, and the rushing of the rising streams." Thus the mountains are deluged with a continued flood, which pours in impetuous torrents down their sides, and inundates the plains in the lower parts of India. In Cabul, and some other adjacent districts, rain falls in spring and is of great importance to agriculture.

In the tropical regions of the western world, the rains are regulated by nearly the same laws as in the eastern. But these apply only to the vast space between the Atlantic and the Andes. The stupendous height of these mountains has great influence in modifying the disposition of the aqueous vapours that float over the southern peninsula of the New world. The clouds, that are brought from the Atlantic by the east winds, are checked in their progress; the sides of the mountains and the plateaux, which constitute their bases, are often watered by copious showers; while the plains, between the Andes and the Pacific ocean, though frequently overshadowed by clouds, never experience the fertilizing effects of rain. Their supplies of moisture are derived from the torrents that roll down the steep sides of the Andes, and the copious dews which nightly refresh the languid vegetation. When the mountain streams fail, the hopes of the husbandman vanish, and the soil becomes barren.

To form an estimate of the comparative quantity of water that falls on the surface of the earth, and that which is carried into the sea by means of the rivers, *Lacroix* compares what annually falls in the basin of the Seine, with the quantity which that river conveys to the channel, in the following terms. "The extent of this basin is about 2500 square leagues, containing about twenty thousand millions of square toises. Upon these there annually falls a depth of nearly 20 inches (French) of water, which produces about 5500 millions of cubic toises. At the place where the Seine unites in a single stream, before quitting Paris, it is 400 feet broad, and five at a medium depth; which gives a section of 2000 feet. The mean velocity of the waters being about one foot and a half per second, there will pass this section 3000 cubic feet per second, or 1200 cubic toises in 24 hours, and 440 millions in a year. The waters it receives below Paris are nearly equal to this quantity, and, therefore, the Seine annually conveys to the sea 900 millions of cubic toises of water; which is about a sixth of what falls on the whole basin. Hence the other five-sixths are absorbed by the vegetables or returned to the atmosphere by evaporation. It therefore follows, that to maintain nearly the same quantity of water in circulation between the earth and the atmosphere incumbent on this

basin, it will be sufficient that the part which is conveyed to the ocean be replaced by evaporation from the sea." What takes place in this particular instance, holds good, by analogy, for other rivers and their respective basins; and from an approximative calculation, the quantity of water annually discharged by all the rivers is about 320 cubic marine leagues, and the mean quantity which falls annually upon the surface of the earth, is about 2220 cubic leagues. The first of these numbers is very nearly a seventh of the second; which agrees with the estimate in the example above stated. These calculations, of course, are only approximations; but they show that evaporation, and the subsequent descent of the aqueous vapours, are sufficient to account for the formation and continuance of rivers, without the necessity of having recourse to any subterraneous reservoirs from which their origin is derived. The loss experienced by the ocean is, therefore, repaired by the influx of rivers, and the descent of aqueous vapours on its surface. If the water, which constantly enters into the composition of solid bodies, is not set free by other combinations, the whole quantity of water on the globe ought annually to decrease; but all our observations on this subject are of too recent a date to lead to any correct conclusion.

The preceding remarks, relative to the distribution of heat and moisture over the earth's surface, enable us more readily to appreciate the import of the word CLIMATE, in its enlarged and physical acceptation. In this sense, it expresses that particular combination of temperature and humidity, to which any region or country is generally subject; or, in more general terms, it implies the actual state of the incumbent atmosphere.

As the most obvious division of temperature is into *hot* and *cold*, and of humidity into *wet* and *dry*; from a combination of these qualities, there result *four* distinct climates. 1. The *hot* and *dry*. Such, in an extreme degree, are the deserts of Arabia, and various other places. There, the earth is scorched by the unmitigated rays of the sun, and the radiated heat becomes extreme. The waters are evaporated, and the plants languish and die for want of aliment. 2. The *hot* and *humid*, occupies a still greater portion of the globe. Bengal, Mesopotamia, the coasts of Zangebar, of Senegal, of Guiana, and of Panama, with other places in the torrid regions of the western world, all merit this appellation. There, perpetual verdure reigns, and many species of the vegetable kingdom attain a giant growth; but there, also, enormous reptiles infest the ground, and the exhalations from the stagnant waters impart a pestiferous influence to the atmosphere. 3. The *cold* and *dry*. This climate prevails in many parts of Europe and Asia; the vegetation is strong but not abundant, and the waters are pure. 4. The *cold* and *humid*. Such as prevails in Siberia and the north of Canada; where the atmosphere is generally enveloped in unhealthy fogs. There, vegetation is reduced to a few solitary shrubs, rising from a carpet of hardy moss, by which the ground is almost completely covered.

These four climates, do not, however, always exist according to the full import of the terms by which they are designated. They are subject to various modifications, particularly of two distinct kinds. The one results from the alternation of two different climates in the same region; the other, from the greater or less prevalence of either of the four elements. Thus, when heat, dryness, and humidity are duly combined, they render the climate comparatively temperate. In Egypt, for instance, the combinations of heat and humidity, during the inundation of the Nile, and of heat and dryness during the rest of the year, temper a climate, which, without these alternations, would be insupportable. In Holland the cold humidity of the autumn is succeeded by frost, which increases the salubrity of the climate, that would otherwise not be so healthy. In some places, however, the changes take place so rapidly, or the difference of temperature is so great, that it renders the climate more

pernicious to the constitution, than though only one of the kind existed. The inhabitants of Astrakan and some other cities experience the heats of Africa in summer, and the colds of Siberia in winter. The same constitution of the atmosphere is also agreeably modified, in some instances, by the solar heat; for the dry heat which renders the great desert of Sahara almost inaccessible, becomes a pleasant temperature at either Madrid or Marseilles. The fatal effects of humid heat are less powerful as we advance from the equator; and on the contrary the cold, either dry or humid, is more supportable as we quit the depths of the polar regions and approach towards the tropics. Bergen and Brest have the same winter constitution of the atmosphere, which is rendered humid and variable by the contiguity of the western ocean, but the annual temperatures of the two places are widely different.

Two seasons only prevail in the torrid zone, the wet and the dry. The former is considered as the winter, and the latter as the summer; but they are in direct opposition to these two seasons, as resulting from the position of the sun in the ecliptic. The rain always accompanies the sun, so that when this luminary is in the northern signs of the zodiac, the countries on that side of the equator have their rainy season. The vertical rays of the sun continually rarify the atmosphere in these regions, the air of colder districts rushes in to restore the equilibrium, the vapours become condensed, and a deluge of rain is the consequence. Those parts of the torrid zone, where there is scarcely any evaporation, have no rain; and in other places the mountains so modify the monsoons as to produce two rainy seasons in the year. An instance of this we have already mentioned on the authority of Mr. *Elphinstone*.

The temperate zones are distinguished by the pleasing varieties of spring and autumn; by the gentle heats of summer and the salutary rigours of winter. This regular succession of the four seasons is unknown, either between the tropics or within the polar circles. From the tropic of Cancer to the 35th degree of latitude, the climate of many places has a great resemblance to the adjacent parts of the tropical regions. Even as far as the 40th parallel, the frost in the plains is neither severe, nor of long continuance; and snow is very rare. The elevated tracts, however, experience all the rigours of winter, and the trees in the plains are stripped of their foliage for about two months in the year.

From the 40th to the 60th degree of latitude, the succession of the four seasons is the most sensible and regular. Man has there been the great instrument in rendering the climate so temperate; and his labours have contributed to this regularity in the succession of the seasons. Two thousand years ago, England, France, and Germany, resembled Canada, and Chinese Tartary, countries equally situated at a mean distance between the equator and the pole.

From the 60th to the 78th degree (which appears to limit the habitations of men towards the north) only two seasons are known. There the winter of protracted rigour and darkness, is abruptly succeeded by a summer of rapidly accumulating heat, and a perpetual blaze of day. Notwithstanding the action of the solar rays is greatly diminished by the obliquity of their direction, his continual presence above the horizon, produces effects hardly experienced in any other region except the torrid zone. Though in some parts brandy freezes, and the mercury in the thermometer loses its fluidity, yet in southern exposures, and near the sea, the winters are remarkably mild. At Bergen, in Norway, and all that coast from the 60th to the 62d parallel, the winter is rainy, but there is seldom either frost or snow; and the season is often less rigorous than at Cracow, at Prague, or even at Vienna.

The climate of the arctic regions during spring and autumn is variable and tempestuous; in summer it is frequently calm and serene. The temperature often passes through its whole range of 50°, with a rapidity unknown in most parts of the temperate zones. A change of wind from the south, south-east, or south-west, to any of the opposite points of the compass,

by sweeping over the frozen regions surrounding the pole, always causes a great and sudden depression of the thermometer; while an opposite change seldom fails to produce an equal and contrary effect. It is difficult to reconcile the idea of summer, with the view of immense masses of ice and snow, and the sensation of almost perpetual frost; but as the continual presence of day for several months, produces a short period of moderate warmth, and causes a scanty vegetation to enliven the arctic shores, the term is not altogether inapplicable. The temperature at this season is very uniform, seldom varying more than three or four degrees in the course of twenty-four hours, and sometimes not more than one or two in several days.

After the continued action of the sun has dissolved much of the great body of ice in the Arctic regions, the short and dubious interval of warmth expires, and frost again resumes his undisturbed sway. Snow begins to fall in August, and the ground is covered two or three feet deep by the end of October. Along the shores, the waters poured from the rivulets, or drained from the melting snow, are quickly converted into ice. As the cold augments the atmosphere deposits its moisture in the form of fog. The vapour freezes, as it condenses, into a gossamer netting of the most delicate spicular icicles, so extremely fine, that they seem to pierce and excoriate the skin. Hoar frost descends so copiously that prominences of every description assume the most fantastic shapes. The whole surface of the sea, being yet comparatively warmer than the incumbent atmosphere, steams like a furnace, and produces the fog called the *frost smoke*. At length the dispersion of this fog indicates that the upper stratum of the water has lost its superior temperature, and a sheet of ice is quickly spread over the surface. The darkness of a prolonged winter now broods impenetrably over the frozen scene of desolation, except when the moon sometimes obtrudes her feeble rays on the gloom, or the coruscations of the aurora borealis shed a momentary splendour over this dreary domain.

During this season, the wretched settlers, covered with a load of bear-skins, remain immured in their huts, every chink of which is carefully stopped to exclude the external cold. The whole inside of the dwelling becomes lined with a thick coating of ice; and if the external air gain momentary admission, the moisture suspended in the confined air, is immediately precipitated in a shower of snow. Their scanty stock of provisions becomes so indurated by the frost, that they can only be divided by the hatchet or the saw. Thus immured, these miserable beings have no resource, but to cower round the lamp or the stove, and endeavour to doze away their torpid existence. As the night advances, the sleep of death seems to wrap the scene in utter ruin, save where the dread silence is momentarily broken by the tremendous growl of the polar bear, or the sudden explosion of the rending rock.

At length, the life-giving sun re-appears above the horizon; but his languid beams rather betray the wide waste than brighten the prospect. A short time elapses, and his presence begins to be felt. The famished inmates, impelled by hunger, as well as reanimated by his beams, quit their huts and resort to the shore in quest of fish. As the sun's elevation increases, and his presence becomes constant, the power of the frost is destroyed, the snow gradually wastes, the ice dissolves, and vast masses precipitate themselves into the sea, with the clash of distant thunder. The ocean is unbound, and its icy dome broken up with a tremendous rupture. Enormous fields and mountains of ice, thus set free, are dispersed by the winds and currents; and when impelled in opposite directions, they meet with a mutual shock, like the crash of worlds.

As the temperature rises, and the ice dissolves, the atmosphere becomes charged with vapours, and the fogs accumulate. The ocean has not yet acquired the same warmth as the air, and as the lower stratum comes into contact with the colder body of water, it is chilled and disposed to deposit its moisture. Fogs, similar to the frost smoke, are, therefore, produced.

But as the equilibrium of temperature is restored, these fogs are dispersed, and the sun shines with dazzling radiance. Short, however, is this reign of brightness, and transitory this elevation of temperature. The hollow blast soon announces the approach of the closing season—the parting gleams of the setting sun quiver on the horizon, and “Winter rides on, in his car of storms, driven by the whirlwind, and canopied in clouds and darkness.”

Section II.

Effects of Physical phenomena on the vegetable and animal productions of the Globe.

IN considering the effects of the physical phenomena, already explained, on the diversified productions of the globe, the multiplicity and variety of the vegetable creation claim for it the first place. It belongs to the Botanist to delineate the treasures of the vegetable kingdom in all their brilliant hues, the diversity of their forms, the minuteness of their ramifications, and the utility of their practical applications; but their distribution over the various regions of the globe, falls within the province of physical geography, and affords an ample proof of that wisdom which presided over the formation of the universe. In tracing this distribution through the different climates which nature has established, it will be evident that heat and moisture are the two great agents in the production of vegetable life; and that all the varieties of climate above described, were requisite for the developement of the different vegetable tribes that derive their support from the soil, and spread their variegated beauties over the face of the globe.

According to *Baron de Humboldt*, the species of plants at present known, amount to 44,000. Of these 6000 are cryptogamous. The remaining 38,000 phanerogamous plants, are distributed in the following manner: viz.

Europe	7,000
Temperate regions of Asia.....	1,500
Asia within the tropics, and islands	4,500
Africa	3,000
Both the temperate regions of America	4,000
America between the tropics	13,000
New Holland and the islands of the Pacific	5,000

The same learned author states, in the *PROLEGOMENA* to his *Nova Genera et Species Plantarum*, that the proportion of plants which grow in latitudes 0° , 45° , 68° , are as the numbers 12, 4, 1. The mean annual temperature in these regions is $81^{\circ}\frac{1}{2}$, $55^{\circ}\frac{1}{2}$, $32^{\circ}\frac{1}{2}$; the mean summer temperature $82^{\circ}\frac{1}{2}$, 70° , $53^{\circ}\frac{1}{2}$. Within the tropics, the monocotyledinous plants are to the dicotyledinous, as one to six. Between the latitudes 36° and 52° , as one to four; and at the polar circle as one to two. In Germany the monocotyledinous plants are to the whole phanerogamous plants as 1 to $4\frac{1}{2}$; in France as 1 to $4\frac{1}{2}$ ths. The same proportion holds good in North America; and likewise, according to Mr. *Brown*, in the temperate zone of New Holland; while in Iceland and Lapland, the monocotyledinous plants are to the whole phanerogamous as one to three. The annual monocotyledinous and dicotyledinous plants in the temperate zone constitute one-sixth of the whole phanerogamous class. In the torrid zone they

scarcely amount to $\frac{1}{10}$ th; and in Lapland, to $\frac{1}{20}$ th. From this statement it appears that the extremes of temperature are unfavourable to the production of these plants. The following table, drawn up by the same author, exhibits the ratio of each family to the whole number of phanerogamous plants in the respective zones.

	Torid Zone. Mean Temperature 81 $\frac{1}{2}$ °.	Tempe. Zone. Mean Temperature 50° to 70°.	Frigid Zone. Mean Temperature 32° to 30°.	
Agamæ cellulosaæ*	1 : 5	1 : 2	1 : 1	
Filices	1 : 60	1 : 60	1 : 25	Germany $\frac{1}{3}$. France $\frac{1}{7}$.
Monocotyledones.	1 : 6	1 : 4	1 : 3	
Cyperoidæ	1 : 60	1 : 30	1 : 9	
Graminæ	1 : 15	1 : 12	1 : 10	
Juncæ	1 : 400	1 : 90	1 : 25	N. America $\frac{1}{15}$. France $\frac{1}{8}$.
The three preceding families	1 : 11	1 : 8	1 : 4	
Labiata	1 : 40	1 : 25	1 : 70	N. America $\frac{1}{10}$. France $\frac{1}{4}$.
Ericinæ and Rhododendra.	1 : 130	1 : 100	1 : 25	N. America $\frac{1}{20}$. France $\frac{1}{15}$.
Compositæ	1 : 6	1 : 8	1 : 13	
Rubiaceæ	1 : 20	1 : 60	1 : 80	France $\frac{1}{3}$. Germany $\frac{1}{10}$.
Umbelliferæ	1 : 2000	1 : 30	1 : 60	N. America $\frac{1}{30}$. France $\frac{1}{10}$.
Cruciferae	1 : 3000	1 : 18	1 : 24	N. America $\frac{1}{60}$. France $\frac{1}{10}$.
Malvaceæ	1 : 50	1 : 200		N. America $\frac{1}{15}$. France $\frac{1}{15}$.
Leguminosæ	1 : 12	1 : 18	1 : 35	Germany $\frac{1}{15}$.
Euphorbiaceæ	1 : 35	1 : 80	1 : 500	
Amentaceæ exclusis casuarin		1 : 45	1 : 20	

The distribution of vegetables is intimately connected with the temperature of the air, the elevation of the place, and the nature of the soil. This is evinced by the fact, that, on the elevated mountains vegetables of different latitudes succeed each other in the regular order of the climates which rise in succession.

Few branches of study have lately made greater progress than the geography of plants. The basis of this study, is the measurement of altitudes by the barometer, and the observations of mean temperatures; or what is perhaps more important in the developement of vegetation, of the differences between the temperatures of summer and winter, day and night. It is from the late attention of scientific travellers to these subjects, that the geographical Botanist is now enabled to fix the limits of vegetables in situations as distant and various as Lapland, the Alps, the Pyrenees, the Caucasian mountains, and the Cordilleras of America.

The temperature and continuance of *Summer* have a much greater influence on the distribution of vegetables, than those of winter. Some plants require a high temperature for a short period; others flourish where the heat is much less, provided it be more protracted. The birch and the pine afford examples of this difference. The former does not put forth its leaves till the temperature has reached about 53°5. In all those situations where the mean heat of the summer months does not amount to this, the birch cannot flourish, whatever may

* To such of our readers as are not conversant with descriptive Botany, the following enumeration of the Plants, which serve as types to the principal forms or families, may be acceptable: viz.

AGAMÆ CELLULOSÆ, *Unmarried, Cellular*, the Cryptogamiæ of Linnæus. Being plants whose stamina and pistillas are invisible, and the whole plant of a cellular structure.

AMENTACEÆ, *Amentaceous*, having a pericarp, an amentum, or thong.

CARYOPHYLLÆ, *Pink like*, as resembling the pink or carnation.

COMPOSITÆ, *Compound*, made up of florets, tubular, or ligulate, strap-shaped, or radiate, composed of both sorts, or kinds.

be the mildness of the winters. This is the case near the North Cape, and in some other parts of Lapland. The pine, on the contrary, requires a long, rather than a warm summer. In the interior of Lapland, and other places, where the summer is warm but short, the birch rises much nearer the line of perpetual congelation than the pine; while in the Alps and other elevated ridges in lower latitudes, where the summer is longer, but colder, the pine flourishes where the birch altogether disappears. Barley and some other kinds of grain will ripen if the mean heat of the summer months amount to 47 or 48 degrees. It, therefore, ascends above the trees in Alpine regions, and flourishes where the deficiency of summer heat denies those even an existence. Small plants, indeed, vegetate in all parts of the world, in situations where trees cannot grow. The distribution of plants is in consequence regulated much more by the heat of the warmer season of the year, than by the severity of the colder; and the progression of vegetation is therefore very different in different countries. Dr. *Wahlenburg* made a great number of observations on this subject, in Swedish Lapland, from which he drew up a curious table of the boundaries of different plants in connexion with their heights above the sea, and the temperatures of the climate where they vegetate; but for this table we must refer the reader to Dr. *Thomson's Travel: in Sweden*.

In the early part of 1816, Baron *de Humboldt* read to the French institute, an interesting paper on the Distribution of Vegetable Forms; and as this contains the most perspicuous views of the subject with which we are acquainted, we shall avail ourselves of its statements. He observes, "The vegetables which cover the surface of the globe present, when studied by natural classes, or families, striking differences in the distribution of their forms. It is to the laws of this distribution that I have recently turned my attention. On limiting them to the countries where the number of the species is exactly known, and dividing this number by that of the *Glumaceæ*, the leguminous plants, the labiated, and the compound, we find numerical relations, which form very regular series. We see that certain forms become more common from the equator towards the poles, like the ferns, the *glumaceæ*, the *ericinæ*, and the

CONIFERÆ, *Cone-bearing, coniferous*, whose fruit is a strobile, called also a cone when ligneous, as our firs.

CRUCIFERÆ, *Cruciform*, shaped like a cross, the petals being opposed to each other.

CRYPTOGAMOUS PLANTS, Such as have neither blossoms nor visible means of fructification, as ferns, fungi.

CYPEROIDEÆ, *Cypress-like*, as resembling the cypress.

DICOTYLEDONES, Those plants of which the seeds split into two lobes when germinating.

ERICINÆ, *Heath-like*, as resembling our heaths.

EUPHORBIACÆ, *Euphorbium-like*, as resembling that plant.

FILICES, *Ferns*, dorsiferous, carrying their seeds on their backs.

GRAMINEÆ, *Grass-like, Gramineous*, as resembling grasses.

JUMINOSÆ, *Jasmine-like*, as resembling the jasmine.

JUNCÆ, *Rush-like*, having the characters of the rush.

LABIATÆ, *Labiata, Lipped*, is when the flower is monopetalous, consisting of a single petal, tubular, ringent, and the mouth closed.

LEGUMINOSÆ, *Leguminous*, having a Legume, as our peas.

LYCOPODIACÆ, *Lycopodium-like*, as resembling a lycopodium.

MALVACÆ, *Malva-like*, as resembling a malva.

MONOCOTYLEDONES, Such plants as shoot out only one lobe in the seed, as our grasses, palms, and lilaceous plants.

PHANEROGAMOUS PLANTS, *visible marriages*, such as have stamina and pistilla apparent.

RUBIACÆ, *Bramble-like*, as resembling that plant.

UMBELLIFERÆ, *Umbelliferous, Umbel-bearing plants*, such as shoot out stalks like an umbrella, bearing the florets on the top of these peduncles, or foot-stalks.

rhododendrons. Other forms, on the contrary, increase from the poles to the equator, and may be considered in our hemisphere as southern forms : such are the rubiaceæ, the malvaceæ, the euphorbia, the leguminous and the composite plants. Finally, others attain their maximum in the temperate zone, and diminish towards the equator and the poles. Such are the labiated plants, the amentaceæ, the cruciferæ, and the umbelliferæ." The cruciferæ, and umbelliferæ almost entirely disappear in the planes of the torrid zone ; and none of the malvaceæ are found beyond the polar circle.

By considering the manner in which numerous families of plants are distributed over the equatorial, temperate, and frigid zones, this author observes, that the vegetable forms present constant relations under the same *isothermal lines*. The grasses form in England a *twelfth*, in France a *thirteenth*, in North America a *tenth* of all the phanerogamous plants. The glumaceæ form in Germany *one-seventh* ; in France *one-eighth* ; in North America *one-eighth* ; in New Holland, according to the researches of Brown, also *one-eighth* of the known phanerogamous plants. The composite plants rather increase in the northern parts of the transatlantic continent ; for according to the new *Flora of Putsch*, there is between the parallels of Georgia and Boston *one-sixth* ; in France *one-seventh*, and in Germany *one-eighth*, of the total number of species which are endowed with a visible fructification. In the whole temperate zone, the composite plants and the glumaceæ together constitute nearly one-fourth of the phanerogamous class ; the glumaceæ, the compositæ, the cruciferæ, and the leguminosæ together, nearly one-third. The last two classes, therefore, form the difference between $\frac{1}{3}$ rd and $\frac{1}{4}$ th, which is $\frac{1}{12}$ th of the whole flowering class. " It results from these researches, that the forms of organized being have a mutual dependance upon each other, and that the unity of nature is such that the forms are limited, according to constant laws of determination. When, upon any point of the globe, we know the number of species presented by one of the great families of the glumaceæ, the compositæ, the cruciferous, or the leguminous plants, both the whole number of phanerogamous plants, and the number of species that compose the other vegetable families, may be estimated with considerable accuracy. Thus, by knowing the number of cyperaceæ, or composite plants, under the temperate zone, we may approximate to that of the graminous or leguminous plants in the same regions." France, according to M. *Decandolle*, possesses 3645 phanerogamous plants ; 460 of which are glumaceæ, 490 composite, and 230 leguminous ; and in Lapland there are only 497 phanerogamous plants, including 124 glumaceæ, 58 composite, 14 leguminous, and 23 amentaceous, &c.

The differences between the relations exhibited in the central parts of Europe, and the same latitude in North America, are accounted for by the different temperatures of these regions. The Flora of North America is a mixture of several Floras. The southern parts give it an abundance of malvaceæ and composite plants ; the northern regions being colder than the same latitudes of Europe, furnish to this Flora numerous rhododendrons, amentaceæ, and coniferæ. The caryophyllæ, the umbelliferæ, and the cruciferæ are in general more scarce in North America, than in the temperate zones of the old Continent.

" These constant relations observed on the surface of the globe, in the plains from the equator to the poles, are again traced in the midst of perpetual snows on the summits of the mountains. On the Cordilleras of the torrid zone, the northern forms, in general, become more frequent. Hence it is that the ericaceæ, the rhododendrons, and the gramineous plants, prevail at Quito, and on the summits of the Andes. On the contrary, the labiatæ, the rubiaceæ, malvaceæ, and the euphorbiaceæ, become as rare as in Lapland. This analogy, however, is not supported in the ferns, and the composite plants. The latter abound on the Andes, but the former gradually disappear, above the height of 1800 fathoms. Thus the climate of the

Andes resembles that of the north of Europe, only with respect to the mean annual temperature. The heat of the different seasons is very different, and exercises great influence on the phenomena of the vegetable kingdom. In general the forms which prevail among the Alpine plants are, according to my researches, UNDER THE TORRID ZONE, the *gramineæ*, the *compositæ*, and the *caryophyllæ*; UNDER THE TEMPERATE ZONE, the *compositæ*, the *caryophyllæ*, and the *cruciferae*; and UNDER THE FROZEN ZONE, the *caryophyllæ*, the *ericeæ*, and the *ranunculaceæ*."

The annexed plate will illustrate this subject. It was given by M. Humboldt to represent the distribution of plants at different altitudes in the torrid, temperate, and frigid zones. The names of the plants are placed at the heights at which they cease to grow. The numbers mark the annual temperature, according to the centigrade scale: those between brackets, indicate the temperature of August. The fathom is six French feet=6.39453 English feet.

This indefatigable inquirer into the laws of nature next considers the question, whether there are plants common to the two continents; and his researches lead him to conclude that many of the mosses and lichens are to be found both in the equinoctial regions of America and in Europe. But the case is not the same with the vascular *agamæ* as with the *agamæ* of the cellular texture. The ferns and the *lycopodiaceæ* do not follow the same law as the mosses and the lichens. The former, in particular, exhibit very few species universally to be found; and the examples cited are frequently doubtful. In reference to *phanerogamous* plants, with a few exceptions, the law of *Buffon* seems to be correct as to the species furnished with two cotyledons. It is not true that the ridges of the Cordilleras of Peru, where the climate is analogous to that of France, or Sweden, produce similar plants. The oaks, the pines, the yews, the *ranunculi*, the rose trees, the *draba* of the Peruvian and Mexican Andes, have nearly the physiognomy of the species of the same genera of North America, Siberia, or Europe. But all these Alpine plants of the Cordilleras, without excepting one among three or four thousand that have been examined, differ specifically from the analogous species of the temperate zone of the old continent. In general, in that part of America situated between the tropics, the monocotyledinous plants alone, and the *cyperaceæ* and the *gramineæ*, almost exclusively, are common to the two worlds. These two families form an exception to the general law. M. Humboldt has given in his *Prolegomena* a catalogue of the plants common to the shores of the Orinoco, Germany, and the East Indies; the number of which does not exceed twenty-four species.

In America, beyond the tropics, the same learned writer states, that nearly one-seventh of the monocotyledinous and dicotyledinous plants are common to the two continents. From Mr. *Brown's* researches in New Holland it appears that about a *twenty-eighth* of all the monocotyledinous plants yet discovered in that immense island are common to it with England, France, and Germany. Among the dicotyledons the ratio is only one to 200. This shows that the grasses and the *cyperaceæ* are the most diffused over the two hemispheres, owing to the extreme flexibility of their organization. In the southern hemisphere, the vegetable forms of the torrid zone advance nearer the pole than in the northern half of the globe. The fern-trees in Asia and America are rarely to be found beyond the tropic of Cancer; but in the southern part of the globe, the *Dicksonia antarctica*, the trunk of which is nearly 20 feet in height, pushes its migrations as far as Van Diemen's Land, in the latitude of forty-two degrees; and is even found in Dusky Bay, in New Zealand. Other forms, not less majestic, which have been thought to belong exclusively to the equinoctial Flora, are found mixed with the absorbent ferns, in the centre of the southern temperate zone.

These phenomena in the geography of plants show the vagueness of what is frequently

said respecting the diminution of the temperature in the southern hemisphere, when the estimate has no reference to the distribution of heat among the different seasons of the year. The regions into which the equinoctial forms of vegetation extend, have, in consequence of the vast ocean which surrounds them, a true insular climate, and the mildness of the winters allows the tropical plants to spread so far to the south; and embellish the temperate zone to the 38th degree of latitude.

The number of lofty trees in the New continent is much greater than in Europe. In North America, there are 137 species whose trunks exceed the height of thirty feet, while in Europe scarcely forty-five species obtain that height. No firs are to be found in the mountains of South America, between the tropics, though they are very numerous in North America. In Lapland the fir grows to the height of sixty feet, but at the straits of Magellan, and Staaten's Land, much nearer the equator, scarcely any trees can grow. In the temperate zones the same species of plants are frequently found growing together in clusters; but this is very seldom the case in the torrid zone, where the woods are formed of a great variety of trees in nearly equal proportions, and uniformly intermixed with each other.

A rapid sketch of the appearance of vegetation in the several regions of the globe must conclude these brief remarks. In this we shall proceed from the pole to the equator, that the scene may improve and brighten as we advance. The frigid zone contains few species of plants; but as in the short course of the polar summer, and under the influence of perpetual day, vegetation is extremely rapid, the species are very prolific. The verdure of a polar summer is chiefly confined to the hills, that have a southern aspect. Its duration is contracted, but its appearance is brilliant. Besides mosses, lichens, ferns, and several creeping plants, there are a few fruit-bearing shrubs, the berries of which constitute one of the Siberian and Lapland delicacies. Rye and some species of pulse are not altogether unknown within the verge of the frigid zone; though nearly every kind of vegetable which, in more temperate climes forms the chief sustenance of man, fails in the northern extremities of these dreary regions. M. Von Buch, however, states that near the North Cape, in 70° of latitude, perpetual snow does not take place below the altitude of 3200 English feet. He also gives the following heights at which the trees that nature has formed to stand the extreme rigours of such a climate cease to grow: viz.

	Feet.
The Pine (<i>Pinus Sylvestris</i>)	600
The Birch (<i>Betula alba</i>)	1400
The Myrtle (<i>Vaccinium Myrtillus</i>)	1800
The Mountain Willow (<i>Salix Myrsinites</i>)	1950
The Dwarf Birch (<i>Betula nana</i>)	2490

The *Betula nana* puts forth only three leaves from one bud, and as these are very small, they come to maturity in three or four weeks, provided the temperature be sufficient. This tree, therefore, ascends higher on the Lapland Alps than any other; but in Switzerland it does not even approach the Alps.

Near the northern limit of the temperate zone commences the perpetual verdure of the forests of firs and pines; the form of which, it has been remarked, approaches that of crystallization. Several fruit-trees, such as apples, pears, cherries, and plums, with various leguminous plants, as peas, cabbage, turnips, &c., grow better, and are more cultivated in the northern part of the temperate zone; while hemp and flax are indigenous there. Advancing towards the south, the oak, the elm, the maple, the beech, and a variety of other forest-trees,

take place of the fir and the pine. The more delicate fruits, as the olive, the citron, the orange, and the fig; with the cedar, the cyprus, and the cork tree, belong to the southern part of this zone. There is likewise a sensible difference in the culture of the leguminous plants above and below the 45th parallel. Several delicate or aromatic vegetables are indigenous to the regions south of that line, and do not attain the same perfection in the more northern parts. The vine and mulberry-tree are principally found between the 30th and the 50th parallel. The vine is indigenous to the south of the 45th degree, north of which its culture is the effect of labour and skill, while nature is prodigal of her bounties to the vine-dressers of Italy and Spain, notwithstanding the ignorance of the one, and the indolence of the other.

Oats and barley are the species of grain best adapted to the rigours of a cold climate. Barley in particular seems to be endowed with the property of modifying the duration of its vegetable life according to the length of the summer. In Lapland and Siberia it ripens in two months; yet winter not unfrequently comes on before it is gathered. Between the 40th and the 60th parallels is the most favourable region for the agriculturist. In the southern part of the temperate zone humidity is less constant, and the vegetation is inferior to that on the north of the 40th degree, with the exception of the United States and China. In these, their geographical situation brings the climate of the colder parts of the temperate zone and of the equatorial regions into immediate contact. These frequently alternate with each other, and produce the most agreeable varieties of the vegetable kingdom.

It is the torrid zone that possesses the vegetable riches we in vain desire to naturalize in other regions. There, fruits the most succulent, and aromatics the most pleasing, are produced. There, vegetation manifests more power, variety, and brilliancy, than in temperate climes; and there, too, the intense beams of the sun raise the plant into a shrub, and the shrub into a tree. It is not merely a simple sap that circulates in the vessels of vegetables, but balsams, gums, and juices, which excite the most sluggish appetite, and please the most delicate taste, or afford antidotes to the maladies that assail afflicted humanity. On these regions, therefore, Nature has bestowed, in boundless profusion, the choicest of those plants which contribute to the sustenance, administer to the convenience, and conduce to the delicacies of life; while in consequence of their elevated districts, she has not altogether withheld the productions of more temperate climes. The multiplicity and variety of the vegetable tribes, are so great as to preclude any enumeration; while the abundance of the verdure and the beauty of the blossoms are such, as never fail to astonish and delight the observer. "The vegetable forms near the equator (says Baron Humboldt) are in general more majestic, more imposing; and the varnish of the leaves is more brilliant. The largest trees are perpetually adorned with flowers larger, more beautiful, and more odoriferous, than herbaceous plants in the temperate zone." The following lively picture of an equatorial forest is drawn by Mr. Mirbel. "None (says he) approach in magnificence the forests which shade the equinoctial regions of Africa and America. One is never satiated in admiring there the endless multitude of vegetables brought into near contact with each other, and mingled promiscuously together; so different among themselves, and often so extraordinary in structure and produce; these enormous trees, still exhibiting no symptoms of decay, though their age goes back to a period but little distant from the last revolution of the globe; those towering palms, contrasting, by their simple forms, with all that surround them; those extensive climbers; those rattans, which, knitting together their long and flexible branches by numberless knots and turns, encircle as one group the whole vegetation of these extensive regions. To clear a path through these, neither fire nor axe is sufficient; the one is extinguished for want of circulation in the air, the other is broken or blunted by the hardness of the wood it meets. The soil cannot afford place

to the numberless germs it developes. Each tree disputes with others, which press from all sides, the soil necessary for its existence; the strong stifle the weak; while rising generations obliterate even the slightest traces of destruction and death; vegetation never flags; and the earth, so far from becoming exhausted, daily acquires new fertility. Hosts of animals of every kind, insects, birds, quadrupeds, reptiles, beings as diversified and strange as the vegetation of the place itself, withdraw themselves under the vast canopy of these ancient thickets, as into a citadel proof against the attacks of man."

It is not, however, in the vegetable creation alone that this luxuriance and variety exist, or this peculiar adaptation to particular regions is observed. If we ascend higher in the scale of creation, we find the ANIMAL KINGDOM likewise participating in the same diversity. Some animals are so entirely fitted for the sultry regions of the torrid zone, that their very existence is endangered by being removed into more temperate climes; while others are so formed to bear the intense cold of the polar regions, that the temperature of the lower latitudes proves equally fatal. The species are so numerous, and the varieties so great, that the distribution of animals over the globe, with their habits and migrations, in connexion with the climates they inhabit, would form an extensive and interesting theme. All, however, that can be attempted in this place, is the development of a few general ideas that may prepare the reader for the more particular enumeration given in the subsequent chapters.

The air, the earth, and the waters, teem with animated beings; and the number of zoophytes, insects, birds, reptiles, fishes, and quadrupeds, is such as almost to overwhelm the imagination. In taking a general survey, however, we not only find a parallel, but a contrast, between the animal and vegetable kingdoms. In the latter, the grandeur and magnificence of nature are confined to the equatorial regions; but although this is generally true with respect to the former kingdom, yet, some of its most majestic forms roll their vast bulks among the floating ice of the frigid zones. Some of the orders of the Linnean class, *Vermes*, are undoubtedly diffused over a great part of the globe; while the zoophytes and others of the same class are chiefly confined to the warm regions, where both the air and the water are heated by the direct rays of a vertical sun. But this class is not sufficiently known to admit of any very precise geographical distribution. The Marine insects, *madrepores*, *millipores*, and others of a similar nature, though apparently insignificant in themselves, are productive of the most astonishing effects in the formation of rocks, and even islands, of coral. The immense island of New Holland is, in a great measure, encompassed by coral reefs, and from thence to the Friendly islands, in the Pacific ocean, may literally be called a sea of coral, against the submarine islands of which the navigator is frequently in danger of striking. Though chiefly confined to the torrid region of the Pacific and Indian oceans, the Mediterranean is not wholly destitute of these insects, and good coral is found near its southern shores.

This first class seems to belong, or at least their habits attach them closely, to the mineral kingdom; while that of insects manifests an equal affinity with the vegetable world. It is, therefore, in equinoctial regions, where vegetation is the most luxuriant, that insects attain the greatest power and brilliancy. The forests of South America are peopled with millions of shining flies, and present to the nocturnal traveller the appearance of an immense fire. Amidst this exuberance of life, which characterizes the burning zone, the insect tribes are formed on a scale of which the inhabitants of higher latitudes cannot form any adequate conception. Locusts, and even flies, sometimes assemble in such immense multitudes, and move in such close phalanx, that they lay waste the regions over which they pass, and drive the inhabitants before them, with all the fury of a desolating tempest. In these climates, wherever forests and moisture abound, these insects swarm in countless myriads, and reign the tyrants of the waste.

It is also among the swamps of the torrid regions that the reptile species attain their utmost magnitude. The Boa Constrictor is so enormous as to be compared to the mast of a ship, and so powerful that the largest quadrupeds expire in his embrace. But this, and many others of the larger species are destitute of that fatal poison with which the rattle snake and some of the smaller kinds are armed. These terrific reptiles gradually diminish, both in magnitude and number, as we proceed into the higher latitudes, till they entirely disappear in the regions that encompass the poles. The lizard tribe also assumes its most gigantic forms amidst the putrid waters of the torrid zone; and all the large rivers of Asia, Africa, and America, abound with the crocodile, the alligator, the gavial, and the caiman, whose open jaws are living chasms, in which man is frequently entombed.

The seas are likewise characterized by their peculiar species of Fish; and many kinds are found in warm climates which are never met with in other regions. These are supposed to be confined to narrow and more local limits than most other branches of the animated creation. That peculiar species of fish in which nature has united the powers of either darting through the deep, or ascending in the air, is indigenous to the tropical seas, as well as many others of the largest size and the most brilliant and varied colours. The ferocity of the shark is, perhaps, unequalled in any other region, and even rivals that of the wild beasts of the forest. But, it is not here alone that Nature has displayed the magnitude of her works, in the finny tribes; for the monarch of the ocean rolls his vast bulk amidst the icebergs of the Polar seas.

While some species of fish appear to be confined to particular places, and perhaps spend the whole of their existence near the spot which first gave them being, others are of a migratory kind, and periodically traverse the ocean to immense distances from their original abodes. The herring is a striking example of this migratory class. These are thought to issue in shoals from the depths of the Arctic seas, and to follow the most elevated sub-marine banks till they reach our latitudes. But the most remarkable circumstance is, that these voyages should be annually undertaken, and so nearly at the same time.

In ascending from the waters to the air—from fish to birds—we observe that Nature has bestowed upon this portion of her works a power of motion resembling that of the insect tribes; but dignified with more implicit freedom and energy. From their peculiar construction, birds seem to have the whole atmosphere assigned them as their legitimate domain; but the food which Nature has adapted for their use, and the plumage with which they are adorned, strongly indicate the regions for which they were formed, and show that physical circumstances controul the tenants of the air, as well as those of the earth and sea. Local necessities or attachments extend even to those which seem to be endowed with the power of ranging through illimitable space. The Condor, the king of the Vultures, which inhabits the cloud-capped peaks of the Cordilleras of Peru, hovers above the summits of Chimborazo itself, and darts his piercing eye from an immense distance upon the sea of vapours that float beneath; but he seldom leaves his native abode, and never visits the lower tracts of the same continent. The great eagle haunts the higher Alps, which he scarcely ever quits; but the Osprey, or sea-eagle, is more generally spread over the globe. Numerous species of the parrot kind are confined to the East Indies and the Archipelago on the south-east of Asia; while the celebrated birds of Paradise inhabit a still narrower region, being found in New Guinea alone, and the neighbouring islands.

The feathered tribes of the torrid zone are in general adorned with a variety and brilliancy of plumage unknown in more temperate climes, and sometimes utter sounds resembling the human voice; but they are incapable of pouring forth those melodious and enchanting strains, which so frequently vibrate on the ear, and delight the inhabitant of the temperate

regions. This zone, with respect to birds, may be considered as stretching from the 30th to the 60th degree of latitude.—The most remarkable circumstance attendant on the feathered race is, the migration of several species at particular seasons of the year. The swallow, the stork, and the crane, at the approach of winter, abandon the northern countries of Europe, where they have spent the summer, and repair to Italy, Spain, and Africa. The wonderful instinct with which these migrations are conducted is manifested by the circumstance, that the same birds frequently return in the spring to the very nest they had built the preceding year. The frigid zones likewise contain their particular species; and there is scarcely a large maritime division of the globe, of which the same may not be affirmed.

On passing from birds to QUADRUPEDS, we arrive at a class of beings still more perfect in their construction, and more closely connected with man, whom the great author of nature has placed as the lord of the creation. Here, too, the effects of climate and local circumstances are still more obvious. The magnitude and ferocity of the animals of the torrid zone afford a strong contrast with those of the more temperate regions. “There are, however, certain animals which thrive almost equally in all the zones, till the severity of the polar frosts chills them, or the hardened ground refuses subsistence. In this class, beneficent Nature has placed all those whose services, in a domesticated state, are most useful to man. These are the horse, the ox, the sheep, the hog, the goat, the dog, and the cat. Others may be added, in the wide diffusion of which nature cannot be considered as having been so bounteous; among these are the fox, the hare, the rabbit, the stag, the rat, and the mouse. These common features, however, leave room for others, in which the different climates are widely distinguished from each other.”

“The torrid zone teems with the same rank luxuriance of animal as of vegetable life. The inundated meadows, and the banks of rivers, are covered with the most overgrown and gigantic forms. The mighty elephant here dwells in the depths of the ancient forests, while the rhinoceros, and the hippopotamus, roll their enormous bulks along the banks of the streams. Other wild animals, not marked by so huge a size, distinguish themselves by power and fierceness. The lion and the tiger extend little beyond the torrid zone. The same may be said of the leopard, the panther, the ounce, and the hyæna. This zone produces also animals of striking beauty, and of a gentle and harmless disposition; such are the antelope, the zebra, and the caméléopard. It is still more advantageously characterised by an eminently useful species, that of the camel and dromedary, without whose services vast tracts of land in this zone would be wholly uninhabitable; and to which may be added, in the New World, the lama and the vicuña.” To this list we may also subjoin the giraffe and the quagga, in the southern regions of Africa.

In the temperate zones, not only the magnitude of the animals diminishes, but the ferocity of their dispositions gives place to a more gentle character. The wolf and the wild boar are the only beasts of prey that are formidable in these regions; and even these bear no comparison to the mighty tyrants of the African and Asiatic deserts. But here the domestic animals are reared in great perfection. The horse did not exist in the New Continent before the arrival of Europeans, though it is now spread from the northern extremity to the plains of Patagonia. In Europe, this noble animal approaches the polar circle; but in Asia he seldom passes the 64th degree of latitude. The ass is less able to endure the cold than the horse; and in Europe is not very common beyond the 54th degree; and no longer propagates its species beyond the 60th. From the 20th to the 40th parallels is the most favourable climate for this animal. There it is large and beautiful, swift and docile. On approaching 60° of latitude, the ox, the sheep, and others of the most valuable domestic animals, become stunted in their growth, and in much higher latitudes give place altogether to a new creation. The dreary

plains in these cold regions abound with the elk, the sable, the marten, the ermine, and others, covered with a thick coat of fur, as a shield against the rigours of the climate. But as this is a beautiful article of luxury, it exposes them to the constant persecution of man. The rein-deer is the most valuable animal peculiar to these climes; and serves all the purposes of the horse and the ox in more temperate regions. Still nearer the pole, nature again assumes a rugged aspect; and the white bear reigns the mighty tyrant of the frozen solitude, which he fiercely defends against the daring approach of man. The polar fox advances farthest north; and is so completely adapted to the rigours of an intense climate, that he cannot exist in Europe, south of the 60th parallel.

The dog is the faithful companion of man, whom he follows into all climates; and is, therefore, the most generally diffused over every part of the globe; while in some, he is the only domesticated animal. The effects of climate, however, on the dog are very conspicuous. Towards the equator, as well as the pole, he loses his voice, and his bark is changed into a murmur. In Italy, he is altogether different in his appearance, from what he is in Kamscharka; and when removed from a temperate to a frozen climate, he assumes a thick covering suited to his new situation. The cat, from being the constant companion of navigators, has now been introduced into almost every region where it did not previously exist. Of the savage animals, some of the various species of the fox are to be found in almost every country. They abound in Novaya Zembla, and on all the shores of the frozen ocean. They are numerous in Egypt, Bengal, and Guinea, and they are spread from the northern limits of the New World to the straits of Magellan.

A general view of the animal kingdom shows, that there is scarcely any extensive tract on the globe that has not a zoology, as well as a flora, of its own. The zoology of the marshy plains and wide-spread savannas of the torrid zone is altogether different from that of the stupendous mountains which pierce the clouds in the same regions. Other species bound from rock to rock, and delight in the highest summits of the temperate climes; while those that inhabit the frozen plains range over the pine-clad mountains, or stalk amidst the perpetual snows of the arctic regions, are totally distinct from them all. Those that are indigenous to the New World are wholly different from those of the Old Continent. M. Humboldt observes, in a paper read to the French Institute, in February 1816, that it has long been known, and it is one of the most interesting results from the geography of animals, that no quadruped, no terrestrial bird, and, as appears from the researches of M. Latreille, almost no insect is common to the two worlds. M. Cuvier is convinced, by accurate inquiries, that this rule applies even to reptiles. He has ascertained that the true Boa Constrictor is peculiar to America, and that the Boas of the old continent are pythons. With respect to the regions beyond the tropics, Buffon has greatly multiplied the animals which he conceived to be common to America, to Europe, and to the North of Asia. The bison, the stag, and the goat of America, with the rabbit, musk-rat, bear, &c. are species entirely different from those of Europe, notwithstanding Buffon has asserted the contrary. There remains only the glutton, the wolf, the white bear, the red fox, and perhaps the elau, which are not sufficiently distinct to be considered as specific.

The general conclusion to be drawn from this brief survey of the vegetable and animal kingdom, is, that there is not any kind, either of animals or vegetables, that is equally fitted for every situation; nor is there any that is not particularly adapted to some. An elevated mountain near the equator frequently presents a botanical epitome of almost every climate. While its base is adorned with all the luxuriant vegetables peculiar to its local situation, its middle regions present those of more temperate climes, and its summit produces only the minute and

indigenous specimens of the polar regions. Nor is the fitness of animals for particular climates less obvious than that of vegetables. The camel is wonderfully adapted for the sultry heats of the equatorial regions; while the rein-deer is so entirely fitted for intense cold, that it cannot exist in temperate latitudes. That each climate also affords food most proper for the support of life under that temperature is a circumstance less obvious but equally remarkable.

MAN not only possesses a greater versatility of mind than the lower species of animals, but he is endowed with a greater pliancy of bodily frame; and this enables him to become an inhabitant of every region. It is, however, by the superiority of his intellectual, rather than the strength of his corporeal powers, that he renders not only the animal, the mineral, and the vegetable kingdoms, but the turbulent elements themselves, subservient to his convenience or his pleasure. While the range of the animals in general is confined to one climate, or to one region, he can exist, with comparative ease, in them all. From the frozen mountains of Greenland, to the burning deserts of Zahara, wherever animal life is found, the human species appears. Vicissitudes of heat and cold, which prove fatal to many of the other tribes of animated nature, are endured without much inconvenience by man. He can fortify himself against the rigours of the arctic or antarctic regions, and he can provide against the scorching rays of the tropical sun. He can not only explore the snowy summits of the Glaciers, the Alps, or the Andes; but he can resist for a time the suffocating vapours of an oven. It must not, however, be inferred from these circumstances, that man is every where the same, either in his external appearance or the development of his mental faculties. So great, indeed, is the diversity he presents, that some philosophers have thought that mankind did not spring from one common stock. Striking and permanent as the difference between the Negro of Guinea, the native of Britain, and the Esquimeau of the polar regions undoubtedly is, others have, with greater truth, maintained them to be the effects produced by the long-continued operation of physical and moral causes. Assuming this to be the fact, an identity of origin is the necessary consequence; and the manner in which the change has been effected has been thus described. "Physical causes must have had an influence on man, before moral causes could operate or even exist, as the latter originate from human actions and institutions, but the former are coeval with nature itself. While man was in his primeval state, before the species was divided into different communities and nations, distinguished by various laws, languages, and creeds, no difference could be produced in the human character by political systems and religious tenets, which had then no existence." We shall, therefore, confine ourselves to a brief view of the effects of physical causes in this place; reserving such as result from moral and political institutions as subjects of consideration in the next chapter.

The discoveries of navigators have now shown that man is generally spread over the whole surface of the earth. He fixes his abode in the most sultry regions of the torrid zone; and his habitations give life and animation to the neighbourhood of the pole. He is found on shores the most inaccessible, and on islands which an immense ocean separates from the rest of the world. The islands of Spitzbergen and Novaya Zembla, on the north, with the Sandwich islands, Falkland islands, and Kerguelen's land, on the south, are the only extensive countries which are known to be absolutely destitute of inhabitants. The New World is peopled from one extreme to the other; and, in the ancient continent, the series of human habitations is interrupted only by a few arid and uninhabitable districts—Man even peoples the *Oasis*, or islands of verdure, dispersed over these oceans of sand.—In the one extremity, the human frame resists a heat that causes spirit of wine to boil; in the other, it supports a degree of cold which renders mercury solid and malleable. Between

these wide extremes, it is evident that the variety of situations and of climates in which man is placed, must not only affect his physical conformation, but his habits and manners, as well as his mental powers and moral perceptions.

It does not require much reflection to perceive that, in the early states of society, particular *geographical situation and local circumstances* must have great influence on the characters and pursuits of communities. These deductions are also fully supported by the records of ancient history, and the testimony of modern observation. Social institutions or political circumstances may subsequently controul, or even efface these primitive effects, but they seldom constitute the basis of national character during the early ages of the political and social compact. The first people who rendered themselves conspicuous for their enterprise, or became eminent for their civilization, their arts, their sciences, and their arms, inhabited the regions that border on the Mediterranean. On this subject Dr. Johnson has remarked, "on these shores were the four great empires of the world, the Assyrian, the Persian, the Greek, and the Roman. All our religion, almost all our laws, almost all that sets us above savages, have come to us from the shores of the Mediterranean."

By slightly examining a few of the ancient nations that were established near the borders of this sea, we shall readily perceive the influence of situation in directing the early pursuits of collective bodies of men. Egypt, though not the first peopled, was among the first civilized parts of the globe; and to this early civilization its geographical situation and local circumstances greatly contributed. Attracted by the fertile banks of the Nile, the early Egyptians experienced diasters from the overflowing of that river, and were thus led to study the means of guarding against the effects of future inundations. Egypt was, therefore, a country where nature bestowed her favours with profusion; but it was also one where they could not be enjoyed without the exertions of ingenious industry. It was this circumstance that gave birth to the first inventions of the Egyptians. Difficulties heightened the ardour of the pursuit, and obstacles served only to call forth new powers and stamp a more decided character upon those by whom they were overcome. The early application of the Egyptians to agriculture and internal commerce was greatly facilitated by the numerous canals which the overflowing of the Nile and the nature of their country at once rendered necessary, and taught them to construct. This introduced or matured the idea of property, and laid the foundation of law. "From law arises security; from security leisure; from leisure curiosity; and from curiosity, the arts and sciences." It was thus that civilization dawned in Egypt; and thus the basin of the Nile became the mother of the arts, and the cradle of the sciences.

With all the incentives to industry, and the advantages of domestic commerce that their country afforded, the Egyptians never rose to the eminence of a maritime or commercial people. The reason of this, with the rise of the Phœnicians to that eminence which rendered Tyre "the Queen of the ocean," have already been noticed in the historical part of this INTRODUCTION. The diffusion of knowledge and civilization, from their birth-place on the banks of the Nile, through the regions bordering on the Mediterranean, was undoubtedly facilitated by the easy means of communication afforded by that sea. Egyptian colonies settled among the savage aborigines of Greece, carrying with them the rudiments of laws and letters, and transplanting the social institutions and useful sciences of the parent state, to the plains of Attica, and the "Isles of the sea." These found a congenial soil in the minds of the Greeks, where they flourished with such rapidity and exuberance that Greece soon established her colonies, and transfused her arts, not only along the northern shores of the Mediterranean, but over those of the Euxine; while the Phœnicians spread along the southern coast, passed the pillars of Hercules, and reached even Britain. But it was the sea, and

consequently the local situation of these nations, which facilitated this diffusion of industry, knowledge, and art :—those first germs of civilization—those corner stones in the temple of future fame.

Modern Europe itself owes much of its celebrity to the easy communication that its inland seas afford between one country and another, notwithstanding the natural effect of situation may in some instances have been over-ruled by other circumstances.—Rome, though situated on the banks of the Tiber, within sixteen miles of the sea, it is true, never became commercial—ages elapsed before Britain assumed her true place in the scale of maritime nations—“The barren territory of Attica bloomed with every art, and with every science, while the fertile banks of the Eurotas were inhabited by unlettered barbarians”—yet the general tendency of geographical situation and local circumstances to stamp a peculiar character on the early state of nations cannot be doubted. Nor is the effects on the minds and manners of men less obvious than on their external habits and pursuits. “Gloomy and cheerless countries will generally give a corresponding tinge to the character of their inhabitants. In the Highlands of Scotland, and the Hebrides or Western Isles, the people have ever been remarkable for a gloomy and superstitious cast of mind, arising from the nature and aspect of their country ; the prominent features of which are lofty mountains, and rocky and lonely recesses, woods over-hanging frightful precipices, lakes intersected with castellated promontories, and extensive solitudes of uncultivated and almost untrodden country, interspersed with nameless ruins, scenes resembling those represented in some of the landscapes of Salvator Rosa. The impressions made on the mind in such situations, are those of melancholy seclusion, and primeval simplicity. The romantic ideas attached to their ancient traditions, and the tales that relate the exploits of their chiefs in former ages, carry back the minds of their present inhabitants to the times of remote antiquity, and impress on them images closely connected with feudal manners and extinguished hostilities.

“These ideas are nourished by the peculiarity of their present condition : their pastoral life in summer, and their contracted sphere of action in winter, limited to a scanty society within the gloomy precincts of their narrow valleys, surrounded by mountains covered with clouds and fogs, or drenched with rains, and repeating, in various echoes, the scream of the wild fowl, and the roar of the cataract. Every thing in such a situation conspires to give a superstitious and melancholy cast to the mind.”—*Bigland's Historical Display*. “Objects like these,” says Dr. *Beattie*, “diffuse a gloom over the fancy, which may be compatible enough with occasional and social merriment, but cannot fail to tincture the thoughts of a native in the hour of silence and solitude.”

The inhabitants of the Isle of Man are equally remarkable for their indolent and superstitious character ; which has also been attributed to the solitary and romantic scenes that constitute their native abodes. Numbers of the people gain a subsistence by fishing ; but as this occupation lasts only a small part of the year, the remainder of it is spent in a state of almost total inaction, which, combined with the solitude of their lonely dwellings, the gloom of their narrow valleys, and the ruggedness of their mountain recesses, render a dark and superstitious indolence a prominent feature in the *Mauk's* character.

In more southern climates, and amidst more fascinating scenery, the mind receives more agreeable impressions ; and the imagination is in consequence more productive of a different order of ideal forms, equally wild, perhaps, but less gloomy and more brilliant. The beautiful fictions of the Greeks have been ascribed to this cause, and the fascinating enthusiast, M. *Chateaubriand*, has with some fancy, but much truth, remarked : “The Mediterranean, placed in the centre of the civilized world, studded with smiling islands, and washing shores planted with

the myrtle, the palm, and the olive, instantly reminds the spectator of that sea which gave birth to Apollo, to the Nereids, and to Venus ; while the ocean, agitated by tempests, and surrounded by unknown regions, was well adapted to be the cradle of the phantoms of Scandinavia."

The celebrated traveller already referred to in this chapter, was struck with the effects of local situation on the human character, in reference to which he observes ; " Although the manners of a people, the display of their intellectual faculties, the peculiar character stamped on their works, depend upon a great number of causes which are not merely local ; it is nevertheless true, that the climate, the nature of the soil, the physiognomy of the plants, the view of beautiful or savage nature, have great influence on the progress of the arts, and on the style which distinguishes their productions. This influence becomes the more perceptible, the farther man is removed from civilization. What a contrast between the architecture of a tribe that has dwelt in vast and gloomy caverns, and that of the hordes whose bold monuments recal, in the shafts of their columns, the towering trunks of the palm-trees of the desert ! An accurate knowledge of the arts can be acquired only from studying the nature of the site where they arose. The only American tribes among whom we find remarkable monuments, are the inhabitants of the mountains. Isolated in the regions of the clouds, on the most elevated plains on the globe, surrounded by volcanoes, the craters of which are encircled by eternal snows, they appear to have admired, in the solitude of their deserts, those objects only which strike the imagination by the greatness of their masses ; and their productions bear the stamp of the savage nature of the Cordilleras.

" What a striking spectacle does human genius present, when we survey the immense disparity that separates the tombs of Tinian and the statues of Easter Island, from the monument of the Mexican temple at Mitla ; and compare the shapeless idols of this temple with the master-pieces of the chisel of Praxitelles and Lysippus ! But we shall cease to wonder at the rude style, or incorrect expression of the monuments of the American nations, when we reflect, that, cut off from the rest of mankind, wanderers in a country where man must have long struggled against nature in her most savage and disordered aspect, these tribes, with no resources but in their own energy, could only emerge with tardy progress from their native barbarism."—*Humboldt's Researches*.

If we examine the subject still more closely, we shall find that communication between different nations or tribes, upon which local situation has such a decided effect, is the very soul of improvement. These effects have been vividly delineated by Dr. *Murray*, in the following terms. " To rouse the mental powers, and inspire an active emulation, it is not enough that man be brought into contract with other individuals, whose situation and habits are the same with his own. The uniformity of such a scene leaves the mind too torpid and inactive. But the contemplation of mind in a variety of aspects, the view of different habits, manners, and opinions, at once set the thinking powers in motion, and furnish them with ample materials on which to act. They free the mind from the chains of inveterate habit. By destroying that blind submission which a man was disposed to pay to the prejudices of country and education, they lead him to form his judgment upon rational and systematic principles. Out of the variety of habits and opinions which are thus presented to him, he will probably learn at last to select those which are best ; or what is still better, will be enabled to trace them by the efforts of his own mind.

" If we consider the effect of this principle upon literature and the arts, we shall soon perceive its influence to be powerful beyond, perhaps, that of any other. In all those ages which receive the appellation of *classic*, it will be found existing in the highest activity.

" We have only to cast our eyes upon the map of Greece, to perceive how completely

nature has divided it into a variety of separate communities. It is entirely broken down into islands and peninsulas ; intersected by rivers, mountains, straits, narrow seas, all those barriers by which nature separates nations, without widely disjoining them, which, while the means of artificial communication are yet imperfect, form insurmountable obstacles to the union of different states into one ; though not to such an occasional, and even frequent intercourse, as may conduce to their mutual improvement. Another cause is afforded by that spirit of emigration, animated by which, Greece, during her early ages, poured numerous colonies upon the fertile shores of Italy and the lesser Asia. All these states spreading to such an extent, and shooting into such a variety of forms, were still united by the same name, the same origin, and the same language ; which last circumstance, in particular, must have powerfully facilitated the communication of ideas. Greece, therefore, (under which name I would comprehend Peloponnesus and the shores of the Ægean Sea,) had beneath her immediate eye, as it were, every various aspect under which it was possible for man to be viewed. Within herself, the rude and simple Arcadia ; the stern and hardy Lacedæmon ; the lively Athens ; the voluptuous Corinth. On one side, the splendid and opulent cities of Græcia Major and Sicily ; on the other, the refined and effeminate Ionia. Immediately beyond, lay Egypt, an ancient and great people, among whom religion, laws, and government, were first formed into a regular system, and were delivered over to Greece to be refined and perfected. Persia presented a military despotism, and barbarous luxury. To the north, the boundless forests of Sythia and Thrace exhibited a view of man in his simplest and rudest condition. To Greece, as to a common centre, ideas flowed from all these various sources." *Character of Nations.*

Besides the influence of situation and scenery, on the character and pursuits of men, the effects of CLIMATE cannot be regarded as evanescent, either on the external appearance, or the mental qualities, of the human species. Great diversity of opinion prevails among travellers, historians, and philosophers on this subject ; but without attempting to assign the precise effect which climate may have in producing that compound result, which must always flow from a combination of physical and moral causes, its general tendency may be pointed out, as exhibited by the inhabitants of various regions ; and, if its effects on the corporeal frame of man be admitted, its influence on the mind cannot reasonably be denied. The diversified appearances of the human race are so great that some philosophers have doubted, and others denied, their identity of origin. Yet, when the numerous particulars in which all the different tribes of men agree, are carefully examined, there is the strongest reason, independently of all scripture testimony, to adopt the theory of their common origin, and to refer all these diversities to the effects of climate and other causes. Climate may be considered as acting either *directly* or *indirectly*. The late Professor Scott, of Aberdeen, left a valuable but unfinished essay on "*The Causes of the diversity of Human Character*," which has since been published in various numbers of the *Classical Journal*. In this he has investigated the effects of climate ; and shown that man owes much of his bodily temperament, and part of the strength or weakness of his mental powers, to mere physical causes.

That extreme heat, acting on the human body, blackens the skin and swells the features, are positions which the history and appearance of man, in all the hot regions of the globe, fully establish. Intermediate degrees of temperature will naturally produce corresponding effects. In some of the original settlements of the Portuguese, on the coast of Africa, their descendants, who still retain the name, with a smattering of the language, are assimilated to the native negroes, both in the colour of their skin, and the woolly nature of their hair. How far inter-marriage may have contributed to this effect, it is, perhaps, impossible to say. These facts strikingly evince the influence of climate, in changing the external appearance of man when

permanently exposed to that influence. If ancient historians can be credited, the ancestors of the Circassians did not possess that fairness of complexion, or that beauty of appearance, for which their descendants are so much celebrated. But "one of the most striking illustrations of the assimilating powers of climate is afforded in the case of the Jews. This tribe is scattered over the whole face of the earth, and, though naturalized in every soil, it is still preserved distinct from the rest of mankind. The Jews, on account of the prejudices of religion and other causes, never intermarry with any but their own sect. If, therefore, they are assimilated to the people among whom they reside, this cannot be ascribed to a mixture of races. Yet it is found that the English Jew is white, the Portuguese brown, the American olive, and the Egyptian swarthy; so that there are, in fact, as many different species of Jews, as there are countries in which they reside, a diversity which can scarcely be accounted for from any other cause than the influence of climate." *Scott's Inquiry*.

The effects of climate on the external appearance of man may, therefore, be assumed as too obvious to need further illustration; but its influence on the *human character* is combined with such a variety of other causes, that its effect is less obvious. A great diversity of opinion has, consequently, prevailed among physiologists on this subject, although, in many instances, it has arisen from considering climate as synonymous with distance from the equator, without taking into the account the local circumstances by which the solar influence is modified, as well as from instituting a comparison between the characters of nations and the climate alone. By this means the powerful influence of moral and political causes has been overlooked, and it ought not, therefore, to be matter of surprise, that theory and fact should often be at variance with, and not unfrequently opposed to, each other. As climate has an undoubted influence on every animated being, it must produce certain effects both on the bodily frame, and on the intellectual powers, of man. It is, therefore, in ascertaining the mode of its operation, and the measure of its influence, that the difficulty exists. Extremes are the most obvious: and the deteriorating influence of cold is, perhaps, more sensible than that of heat. This is strongly evinced towards the northern extremities of both the continents, where the bodies and minds of the inhabitants are equally stunted by the extreme rigour of their climate. The action of climate upon the human frame and character is either *direct* or *indirect*.

According to the researches and reasonings of Professor *Scott*, "climate has a direct influence in regulating the strength or weakness of the human constitution; and in consequence of this influence it materially affects the character. The inhabitants of a hot climate, are never so robust as those of a more temperate region; extreme heat relaxes the muscular fibre, deranges the natural secretions, and enervates the whole corporeal system. This imbecility of body necessarily has a great effect on the mind; and among such people we have reason to expect timidity and cowardice, rather than valour and a capacity to endure hardship. In a climate where moderate cold occasionally prevails, the animal fibre is braced, and all the bodily functions are allowed free play. Here, therefore, we have reason to expect a strong and hardy race, equally qualified to endure the fatigues of the field, and to brave the dangers of war."

This he considers as being conformable to the records of history; and cites the Chinese, the Hindoos, and the Persians, as having frequently been conquered by the warlike tribes of a more temperate climate. The devastations of the Spaniards in the transatlantic continent also corroborate the same fact. The most striking exception to this general principle appears to be the instance of the Arabs and Saracens, who manifested such a degree of courage and intrepidity under Mahomet and his successors. There were circumstances, however, attending that war of a nature not only animating beyond example, but it was in general

carried on against those who were more pusillanimous than themselves. Extreme cold is equally unfavourable to robustness of constitution, and equally inimical to the existence of genuine courage. The inhabitants of the arctic regions are more indebted for their security to their harmlessness, their love of peace, and the inhospitable nature of their country, than either to their courage to undertake, or their power to endure, the hardships and dangers of war.

Climate has also a *direct* influence upon the human character as it respects **indolence** or activity. Extreme heat creates languor and aversion to labour. Severe cold benumbs the powers and produces the same effects. In hot countries, rest and repose are considered as the highest enjoyments ; and, therefore, cool alcoves, shady arbors, and refreshing fountains, are among the most desired luxuries. The heat of the sun during a great part of the time he is above the horizon, renders all active exertion nearly insupportable. Those who are not impelled by necessity, therefore, generally indulge during these periods in listless inactivity. This is strongly exemplified in the Mussulman, who, indolently reclined, with his pipe almost constantly in his mouth, and his attendant driving away the flies that would otherwise disturb his repose, dreams away his existence, little troubled by the past, and less solicitous for the future.

Extreme cold also produces the same indifference and inactivity. When Captain Cook, in his first voyage visited Terra del Fuego, he found the inhabitants the most torpid and indifferent of human beings, altogether devoid of curiosity. " They went from one part of the ship to another, and looked at the vast variety of new objects which every where presented themselves, without any expression of either wonder or pleasure. With no dwelling but a wretched hovel of sticks and grass, which would not only admit the wind but the snow and the rain ; almost naked, and destitute of every convenience that is furnished by the rudest art, having no implements even to dress their food ; yet they were content. They seemed to have no wish for any thing more than they possessed, nor did any thing that we offered them appear acceptable but beads, as an ornamental superfluity of life." The same description applies with little modification to the inhabitants of the arctic regions. Wrapped in bear skins, and immured in their huts, with every chink stopped to prevent the piercing of the severe cold, they crowd together round the lamp or stove, husband their slender stock of frozen provisions, and endeavour to doze away the protracted period of their tedious night.

A third instance in which climate has a direct influence upon the character of man, is strongly evinced by the practice of polygamy in all the hot climates of the east. There the pious Mussulman is taught to look for his chief enjoyment in the society of the beautiful *Houris*, whose blooming charms, in the paradise of Mahomet, are never to decay. The evidence afforded by these facts is greatly heightened when contrasted with the absence of polygamy in the temperate regions, and the apathy with which the fair sex are treated in northern climes. In each extreme females are held in a degraded state, and condemned to the most servile offices ; while in the temperate regions alone, this fairest work of creation is allowed to maintain her proper rank in society. Having enlarged upon each of these topics, Professor *Scott* concludes this part of his Inquiry by observing, " it is in the temperate regions, therefore, that we are naturally to look for an advanced state of the arts, for essential improvements in science, and for the institution of equal laws, and a free government. It is there that we are to expect examples of heroic valour, transcendant genius, incorruptible patriotism, or unshaken virtue. And it will not be denied, that historical evidence affords the most direct confirmation of the truth of this doctrine."

One of the *indirect* effects which the influence of climate has on society arises from the degraded state of its females. The early age at which they attain maturity in hot countries

connects childhood and marriage in close union ; and reason is therefore incapable of maintaining that empire which love has acquired. The charms of youth are of short duration, and the compact of inclination, in which the mental powers had no share, is easily dissolved. The wife then sinks into the slave, and makes way for a more youthful rival. Women, therefore, in hot climates, are objects of ardent desire, but not of esteem ; and the character of the husband is in consequence lost in that of the tyrant.

The same influence affects the manners and amusements of a people. The tendency of heat to produce indolence, and the ease with which many of the necessities of life are procured in sultry regions, create a desire for the enjoyment of luxuries and of effeminate pleasures, which is strongly contrasted with the more robust exercises of temperate climes. The music and poetry of the torrid and temperate regions also form an equal contrast. A soft languor characterises the one, a high tone of instinctive feeling pervades the other. Springing from different origins, and devoted to different purposes, they call different faculties into exercise ; the one enervates, the other elevates, the soul.

A third instance in which the influence of climate is manifested is in laws and government. If it have an effect upon the strength and vigour of the constitution—if it invigorate or debilitate the mind, and impart a peculiar tone to the pursuits and amusements of a people, it cannot fail to bestow a distinguishing shade on their civil and political institutions, which have their natural foundation in the general character and dispositions of the community. So strong, indeed, is the testimony of history on this point, that the mind, accustomed to contemplate the records of mankind, almost involuntarily associates the ideas of despotic power and servile obedience with that of an enervating climate. Political freedom and equal laws cannot be the growth of those climes where men are incapable of much intellectual exertion. Where the mind is destitute of that energy in which alone freedom can mature her precious fruits, it is much easier to yield implicit obedience to the will of another, than to assert the common rights of man, and maintain the independence of the general body against the usurpations of the powerful and the ambitious.

The productions of the soil, which constitute the common articles of *food*, and the degree of labour necessary to obtain them, which depends upon the nature of the climate, are not destitute of influence on the human character. Activity and moderate exertion are the two great agents which, by imparting health and vigour to the body, give power and elasticity to the mind. In this respect, the temperate regions enjoy an eminent advantage above those where the energy of man is dissipated by the intensity, or paralyzed by the feebleness, of the solar rays.

Mr. *Murray*, who is not disposed to admit the physical influence of climate, or at least only in a very limited degree, asserts that it possesses a very powerful *moral* influence. But this influence is indirect in its operation. He observes, “ a warm climate tends powerfully to increase the fertility of the soil ; it tends to diminish the necessity of clothing, and perhaps also that of food. These circumstances are decidedly of a stimulating nature. They tend to increase numbers and wealth, and they diminish the necessity of labour, (all of which this writer places among the progressive principles of society.) It is in warm climates, accordingly, that man first begins to display his powers ; that strong passions are first unfolded. The fertile plains of the south of Asia, are universally respected as the cradle of arts, and of genius. In consequence, however, of the rapid increase of the progressive principles, disorders soon rise to a great height ; and nature, whose resources are always equal to her wants, induces a degree of coercion so great, as to check altogether the progress of the human mind. The whole extent of territory, from Egypt to China, has, from the earliest ages, been occupied by vast despots, in which every thing has been stationary. The nations in the south of Europe

followed ; among whom these principles, subsisting in a more moderate degree, admitted of that degree of liberty which is essential to the arts. Their career was more splendid, and of longer duration : but its termination has been nearly similar. The middle and northern nations of Europe have now succeeded. Thus there has been, for the arts and sciences, a continual progress northward, from happier climates to those less favoured by nature."

If climate affect the strength of the human constitution, it must not only influence the term of its duration, but, in some measure, controul the re-production of the species. Though political and moral causes unite with climate and local circumstances, in producing this general effect, we shall in this place collect a few of the principal results on this interesting branch of inquiry. The natural limit of human life seems to be between eighty and ninety years, very few individuals exceed the latter period, and the great majority of mankind die long before they attain the former. Nearly a fourth of all the infants that are born die during the first year; and more than half descend to the tomb before they are twenty-two years of age. In general, the mean duration of human life is found to be between thirty and forty years; that is, in every thirty or forty individuals, taken generally, there is one death every year, and, consequently, the whole will be replaced in that number of years. This ratio, however, is subject to considerable variation, according to sex, situation, climate, and circumstances. It even varies between one province or district of the same country, and another. *Sussmilch* states the ratio, in 1774, for both men and women, to be, in Prussian Silesia, one in 26, and in the March of Brandenburg, one in 36. *Wargentin* gives the ratio for Sweden, at one to 33 men, and one to 35 women. According to the statistics of *Thaunrup*, in Denmark and Holstein, the proportion of deaths was one to 37 $\frac{1}{2}$. In Norway one to 48 $\frac{1}{2}$. In Russia, according to some accounts, the ratio was one to 58 or 59; but in this case there is reason to suspect the accuracy of the statement.

In the Report of the population of Great Britain, compiled from the returns of the Census, by Mr. *Rickman*, and laid before the parliament, in 1811, the mortality of England is stated to have diminished since 1780, in the following proportion : viz.

In 1780	one person in	40	died annually.
1790	Idem	45	Idem.
1800	Idem	47	Idem.
1810	Idem	49 or 50	Idem.
Births, 1 in 34.....Marriages, 1 in 122.			

Mr. *Malthus*, who wrote previously to 1811, stated the mortality of England at one in 40; and the births at one in 30. The same author also gives the births and deaths for several of the other European countries, as follow,

In Norway	.....	1 in 48 die, and 1 in 34 are born.
Russia	.....	1 in 48 1 in 26 Idem.
Sweden	.....	1 in 35 1 in 28 Idem.
Holland	.....	1 in 23 1 in 23 Idem.
France	.....	1 in 50 1 in 25 Idem.

Mortality has also been found to be much greater in cities and large towns than in the country. *Wargentin* estimates the annual deaths at Stockholm, at one in 17 men, and one in 21 women. According to the investigations of Dr. *Price*, the annual deaths in the cities and great towns of England vary from one in 19, to one in 23; in the smaller towns, one in 28; and in the country villages, one in 40 to 50. In Paris, it is stated that the deaths, in 1819, were about 1 in 30. It is a singular and an appalling fact, that more than *one-third* of the inhabi-

tants of that splendid and luxurious capital die in the hospitals and *hospices*, in which 7310 out of 22,137, died in the last-mentioned year.

Experience shows that elevated plains, or mountains where the air has a free circulation, are the most favourable to longevity. Insular climates, where the air is constantly renewed and refreshed by the sea breezes, are also auspicious. Russia, Norway, Sweden, Denmark, Scotland, Ireland, and Switzerland, are the European countries which afford the greatest number of well-authenticated instances of persons having exceeded the age of 100 years. In these countries we may reckon one individual of a hundred years old, in every three or four thousand. A sober life, exempt from excesses and tumultuous passions, appears to contribute singularly to the duration of life. According to the author of a curious little work, as stated in the 72d volume of the *Journal du Medicine*, and entitled *Apologie du Jeune*, 152 hermits taken from all ages and climates give a total life of 11,589 years; and, consequently, rather more than 76 years and three months each; while the same number of Academicians, one half from the Academy of Sciences, and the other from that of Belles-lettres, gave only 10,511 years; or 69 years and rather more than two months each.

In the common course of nature, at least among civilized nations, there is generally a greater number of births than deaths. Very different ratios, however, have been found on this subject. In the country, the proportion between the births and the whole population, is frequently as one to 22. In cities, it is sometimes one to 40; or more generally as one to 35. Climate has here a singular effect. The most salubrious climate is not that in which the greatest number of births take place. In Denmark, for example, the ratio of births to the population, is as one to 31; in Norway, as one to 34; and in France the ratio is one to 29. In Sweden, four children are found on an average to be the produce of each marriage; in France, the average is four and a half. The manner of life, the mode of occupation, and the nature of the food, all exercise an influence on the propagation of the species. It has been asserted that the children of those who live principally upon fish, are more numerous than those who live chiefly upon flesh. Among a wandering people, the proportion of births is less than among those that are stationary. The greatest number of births take place in an agricultural state of society, in which the means of subsistence are easily procured, and are of the most pure and congenial kind. The average number of births to each marriage, seldom exceeds five, or is less than three. In most civilized countries, it is about four. The proportion of births to deaths in general varies from about 150 to 100 in a few highly-favoured provinces, to nearly an equality in others.

“ It has been observed, that in the actual circumstances of every country the principal of population generally (or perhaps with some few exceptions) exerts itself to the utmost. In the United States of America, where food is so abundant as to admit of considerable exportation, and where it is accessible to all classes of the community, the population is known to double in about.....23 years

In Canada, the population will probably, at present, double in28 years

In Russia, where there is an excess of food to double the population, it is supposed to require36 years

In Great Britain, according to the progress of population, which has been disclosed, it may be expected to double in.....54 years

In Ireland, according to Mr. Newman's calculation, it doubles in.....46 years

In France, exclusive of the new territory, the population before the revolution was 29,563,074. And, making allowance by the excessive drains occasioned by the war, may perhaps double in about.....50 years.

“ With respect to most of the other nations of Europe, few accurate estimates can be formed. The increase or diminution of the population will in a great degree depend on the abundance or scarcity of food, on the resources for productive labour, and on the advantages which may be derived from a good or bad government. In some countries, such as Norway and Sweden, where the food raised is not equal to the consumption, and where the resources for labour are as scanty, the population may retrograde, or at most will remain stationary; while in others, it may double at periods extending from sixty to one hundred years.

“ If the United States of America were to continue increasing in the same ratio as at present, the inhabitants would amount to 333,000,000 in 150 years, and would exceed China; and doubtless the whole of this immense population would speak the *English Language*. It may safely be presumed, that population, when unshackled, goes on doubling every 25 years. In the back settlements of America it has even doubled in fifteen years.” *Dr. Colquhoun's Treatise on the Wealth, Power, and Resources, of the British Empire.*

The following Table, which shows the time in which the population of a country would double itself, according to given circumstances, was calculated by M. Euler.

Population, 100,000.		Mortality, 1 in 36.	
The Deaths being to the Births as	The excess of Births would be	The increase in the population would be	The population would be doubled in
10 to 11	277	$\frac{1}{36}$	250 $\frac{1}{2}$ years.
12	555	$\frac{2}{36}$	125
13	722	$\frac{3}{36}$	86
14	1100	$\frac{4}{36}$	62 $\frac{1}{2}$
15	1388	$\frac{5}{36}$	50 $\frac{1}{2}$
16	1666	$\frac{6}{36}$	42 $\frac{1}{2}$
17	1943	$\frac{7}{36}$	35
18	2221	$\frac{8}{36}$	31
19	2499	$\frac{9}{36}$	28
20	2777	$\frac{10}{36}$	25 $\frac{1}{2}$
22	3332	$\frac{12}{36}$	21 $\frac{1}{2}$
25	4165	$\frac{15}{36}$	17
30	5554	$\frac{20}{36}$	12 $\frac{1}{2}$

If we suppose the whole population of the globe to be 700 millions, the deaths one in 33, and the ratio of the births, one to 29 $\frac{1}{2}$, we shall have the following results for the whole population of the globe.

Periods of Time.	Births	Deaths.
In a year	23,728,813	21,212,121
In a day	65,010	58,120
In an hour	2,708	2,421
In a minute	45	40

The total of mankind would therefore be annually increased by 2,516,692 individuals, if wars and epidemic diseases did not counteract this natural tendency to augmentation. This increase in 100 years would consequently amount to 3216 millions. The earth would still be capable of supporting a greater number; but the testimony of history warrants the conclusion, that the augmentation of the human species actually follows a much slower progress.

The ratio between the two sexes is not only interesting in itself, but of much importance as an element of political economy. In Europe there are always more boys than girls born, in the proportion of about twenty-one to twenty, or according to some authors about twenty-six to twenty-five. Mortality is also greater among male than female children, nearly in the ratio of twenty-seven to twenty-six; so that at the end of the 5th year, the numbers of each

are nearly equal. Yet the surplus is in favour of the males: but much more than this is frequently destroyed by wars, dangerous voyages, emigrations, &c.; so that the number of females in our own climates, ultimately exceeds that of the males. This difference sometimes becomes very sensible; especially after long wars. It has been stated that in France, after the seven years' war, the excess was 890,000 in a population of 24 or 25 millions; and in Sweden after the war of the north, it amounted to 127,000, the whole population being about two millions and a half. But the excess, in the whole of Europe, is not very great.

It is generally estimated that when there are 10,000 children born annually in any country or district, there ought to be about 295,000 inhabitants of both sexes; of which 93,000 are children under 15 years of age; and 202,000 persons above that age. Among these persons there is at most 23,250 marriages, (polygamy not being permitted) the mean duration of which may be estimated at 21 years; there ought also to be 5812 widows, and 4359 widowers; the remainder will be single. The widows to the widowers are, therefore, as four to three; and the married to the single nearly as one to three.—*Malte Brun's Geography.*

CHAPTER IV.

OUTLINES OF POLITICAL GEOGRAPHY.

WHATEVER may be the separate or combined effects of geographical position, climate, and other physical circumstances on the various tribes of mankind, it will readily be allowed, that *moral* and *political* causes have a much greater influence in forming the characters, and fixing the conditions, of nations. These principles apply more particularly to man in his collective capacity, or social state. That man was designed for society is strongly evinced by the social feelings inherent in his nature. Indeed, this principle is so strong, that, when he is deprived of intercourse with his species, he immediately cultivates an acquaintance with inferior objects. The state prisoner in France, who beguiled his solitary hours by attending to a spider that inhabited his cell, is a well-known instance of this social feeling. The history of the unfortunate Baron *Trenck* supplies another proof of a similar kind. The origin of society may therefore be traced to this social principle, originally implanted in the human mind.

It is this which not only prompts us to associate with other men, but induces us to participate in all their emotions, and to take a lively share in their joys and sorrows, their hopes and fears. The principle which produces these feelings is strengthened by our affections, especially those of a benevolent kind, which metaphysicians include under parental or natural affection, pity, friendship, love, and gratitude. Each of these, if carefully analyzed, would be found to form a link in that chain which binds man to man, and by inducing each individual to seek an intercourse with his fellows, suggests the mutual enjoyments that constitute the bands of society, and strengthens the social compact.

“Daily experience (says Mr. *Ferguson*.) shows that sadness and melancholy are connected with solitude; gladness and pleasure with the converse of men. The wailings of the infant, and the languors of the adult, when alone, the lively joys of the one, and the cheerfulness of the other, on the return of company, are alike proofs that this principle is inherent in our nature. Much has been ascribed to the impulse of fear, and the cool calculations of advantage in the organization of society; but these are weak in comparison with the impulse of natural affection.” It has been well remarked by the same writer, in his *Essay on Civil Society*, that “mere acquaintance and habitude nourish affection, and the experience of society brings every passion of the human mind on its side. Its triumphs and propensities, its calamities and distresses, bring a variety, and a force of emotion, which can only have place in the company of our fellow creatures. It is here that a man is made to forget his weakness, his cares of safety, and his subsistence; and to act from those passions which make him discover his power.—Affection operates with the greatest force when it meets with the greatest difficulties. In the breast of the parent, it is most solicitous amidst the dangers and distresses of the child. In the breast of a man, its flame redoubles, where the wrongs or sufferings of his friend, or

his country, require his aid. It is, in short, from this principal alone, that we account for the obstinate attachment of a savage to his unsettled and defenceless tribe, when temptations on the side of ease and safety might induce him to flee from famine and danger, to a station more affluent, and more secure. Hence the sanguine affection which every Greek bore to his country, and hence the devoted patriotism of an early Roman. Let these examples be compared with the spirit which reigns in a commercial state, where men may be supposed to have experienced, in its full extent, the interests which individuals have in the preservation of their country. It is here, indeed, if ever, that man is sometimes found a detached and solitary being : he has found an object which sets him in competition with his fellow creatures, and he deals with them as he does with his cattle and his soil, for the sake of the profits they bring. The mighty engine which we suppose to have formed society, only tends to set its members at variance, or to continue their intercourse after the bands of affection have ceased to exist."

The origin of government may also be traced to the selfish principles and passions of man. Those principles, and affections of a benevolent nature, urge him to seek the welfare of others ; but, as he possesses appetites, desires, and passions, which are either of a selfish nature, or, when circumstances call them into exercise, are prejudicial to the other members of the community, a degree of constraint becomes necessary for their mutual welfare. From this arose *Laws* for the regulation of the social compact, and *Government* for carrying these laws into execution. Mutual protection from the passions and selfish desires of each other was, therefore, the first principle that induced men to submit to authority and government. The origin and progress of civil society, with the first introduction of a ruling power, have been ably sketched by Dr. *Russell*, in his *History of Ancient Europe*. He observes, " As the first social connexion is that of husband and wife, the first civil authority is that of a father over his family. Nature, therefore, directs us to patriarchal rule as the original government among men. For, although a father has no natural right to govern his sons after they have attained the years of manhood, they will find it necessary to recur to some person for the arbitration of their common differences. And who is so likely to be chosen for that purpose as their common parent ? They have been habituated in infancy to submit to his authority : he has settled their boyish disputes, and they have wondered at the strength of his understanding, while their own was weak. Early impressions are not easily eradicated. His counsel is sought, and to him they are led to appeal, not only from a persuasion of his superior wisdom, but from a conviction that his decisions will be just ; because he is equally concerned in the welfare of all. To him, as their common head, his off-spring look up ; and he exercises, during life, the joint offices of governor and judge.

" The further progress of government is not more difficult to trace. Families naturally grew up into tribes, held together by common consanguinity, and of which the head of the eldest family in each tribe was revered as the chief. When they were exposed to danger from foreign enemies, or induced by considerations of mutual advantage, two or more tribes united into one body, and composed a nation or state. In the new community, which generally formed a rude republic, some man of superior sagacity in council, or greater prowess in war, never failed to gain the ascendancy ; and when these qualities happened to be combined in the same person, he was not only entrusted with the command of the forces belonging to the state, but took the lead in all the public deliberations. With or without the forms of election, he was constituted chief magistrate and captain-general for life. A portion of the respect for the father was naturally transferred to the son. He usually possessed the same elevated station ; and with office, wealth, and influence accumulated, the chief magistracy became hereditary. Thus was one family raised above others, and monarchy gradually formed."

The numerous forms under which society now presents itself, in the various regions of the globe, are nearly as diversified as the appearance of the individuals of whom it is composed. How great is the contrast between the state of society among the Bushmen, who lodge in dens and caves, under the shelter of a projecting rock, in the midst of a bush, or in holes dug in the sand, and the complicated forms of the most refined and civilized communities ! How multifarious, too, are the gradations !—The whole knowledge of man in the one state does not extend to the distinction between good and evil, and his circle of the mechanical arts embraces only the construction of bows, arrows, and pots of clay ; while, in the other, he enjoys all that can embellish life, or gratify the intellectual faculties of a rational being. A brief description of the leading features of this diversity must suffice. For this purpose, the whole may be arranged under the four general heads, of *savage*, *barbarous*, *half-civilized*, and *civilized*.

The SAVAGE state is distinguished by the want of almost every art by which man more advanced in civilization not merely provides for his subsistence, but procures many of the comforts and conveniences of life. In this state, the dawn of political union is scarcely perceptible. Unaccustomed to any fixed residence, man, like the beasts of the forest, roves from place to place, as impelled by his inclinations or his necessities. Not having learnt to tame the animals of his deserts, and render them subservient to his wants, he derives his subsistence from hunting, fishing, and the spontaneous produce of the soil. He knows not how to fix his ideas by any substitute for writing ; nor has he yet learned to render the earth more productive by culture. Low as this description may appear, when contrasted with the vast progress which civilization has made among the various communities of the human race, New Holland, and the adjacent islands of Papua, and Van Diemen's Land, supply examples. They present man in the lowest state of his existence ; and, with many of the South Sea islands, some parts of Africa, and immense tracts in the interior of the New World, still remain the undisputed possessions of savage life. Various shades of difference are exhibited in these immense and widely distant regions ; but all are characterized by untamed habits of life, the absence of useful arts, and the unrestrained indulgence of natural appetite. Here, however, necessity compels men to act, in small communities, the general characteristics of which are the mutual attachment of the members, and their united hatred of all other communities. Even in this stage of existence individuals are often found, whose courage and abilities have raised them to the rank of chiefs, who are looked up to by the rest of the tribe with a degree of idolatrous veneration, and obeyed with a promptitude and implicitness of which civilized life affords no example.

The next state of society is that which has been denominated the BARBAROUS. This is chiefly distinguished from the Savage state by a different mode of obtaining subsistence, by a small progress in the useful arts, by less ferocity and stronger social affections. In this state, their principal subsistence is derived from their flocks and herds ; and their chief occupation is attending their cattle, and performing the rudest operations of agriculture. Some form of political constitution generally subsists among the members of these communities, while robbery and piracy are frequently reduced to a regular system. Such was the general state of Europe during the long series of the middle ages, and such is still that of Africa, except where savage life prevails. This condition of society, indeed, spreads over the sun-parched deserts of Arabia, covers the great central plains of Asia, descends to the peninsula of Malacca, and embraces the Malay inhabitants on the coasts of the Indian Archipelago ; while the natives of the mountainous districts of the interior of most of these islands belong to the savage tribes.

Under the term HALF-CIVILIZED, are generally included all those nations where agriculture

and even some of the finer manufactures are cultivated with great assiduity and success ; but where the iron hand of despotism is felt through every rank in society, and all the energies of the mind seem paralyzed by its deadening influence. Foreign commerce is usually very limited, and the people, though orderly and industrious, are servile and timid. The whole fabric of society, as well as of intellectual improvement, seems to be altogether stationary. The most fertile regions of southern Asia fall under this denomination, as China, India, Persia, and Turkey. A rough and turbulent courage, an energy of character, and a love of enterprise, distinguish the barbarous state ; while a dastardly timidity, and a pusillanimous submission, predominate in the half-civilized. As these have long been approximated to each other on the central line of Asia, whenever they have come into actual and hostile contact, the former has always prevailed, and Tartar dynasties have been successively established in all the Southern provinces. Thus the barbarism of the central regions has been gradually incorporated with the luxury and civilization of the Southern empires ; and the conquered have thus civilized the conqueror.

The term CIVILIZED is applied to those states that have made a still further advance in the arts and elegancies of life ; whose political institutions equally banish that turbulence which is incident to the liberty of barbarism on the one hand, and that vapid uniformity which is the peace of despotism on the other. In the half-civilized, a servile imitation of former precedent, and prescribed examples, constitute the animating soul of the whole ; but in those nations that have risen above this insipid level of life, the intellectual faculties take a wider range : the powers of the mind manifest themselves in a thousand different ways ; and inventions, discoveries, and improvements, are the proofs by which this mental activity is exemplified. Agriculture is conducted with greater skill ; human labour is abridged and rendered more productive by the invention of machinery ; commerce conveys to their shores the richest productions of every climate ; arts, sciences, and literature, assume a more elevated tone, and afford “ a feast of reason and a flow of soul ” to which the other states of society are strangers. This superiority is justly claimed by many of the states of modern Europe, and by Britain, France, and Germany, in particular. The wide-extended possessions of Europe, in every quarter of the globe, and the unexampled extent of her colonies, are also features by which she is conspicuously distinguished from all other regions. But the influence of her arms, her arts, and her knowledge, thus diffused over the world, cannot be delineated in this brief sketch.

An attentive examination of the origin of society and subordination, leads to a conviction that government results more from circumstances than system, from casual events rather than from organized plans. “ The savage, whose fortune is comprised in his cabin, his fur, and his arms, is satisfied with that provision, and with that degree of security he can himself procure. In treating with his equal, he perceives no subject of discussion that should be referred to the decision of a judge ; nor does he find in any hand the badges of magistracy, or the ensigns of a perpetual command.

“ The barbarian, though induced by his admiration of personal qualities, the lustre of a heroic race, or a superiority of fortune, to follow the banners of a leader, and to act a subordinate part in his tribe, knows not that what he performs from choice, is to be made a subject of obligation. He acts from affections unacquainted with forms ; and when provoked, or when engaged in disputes, he recurs to the sword as the ultimate means of decision in all questions of right.

“ Human affairs, in the mean time, continue their progress. What was in one generation a propensity to herd with the species, becomes in the ages which follow, a principle of

natural union. What was originally an alliance for common defence, becomes a concerted plan of political force; the care of subsistence becomes an anxiety of accumulating wealth, and the foundation of commercial arts.

“Mankind, in following the present sense of their minds, in striving to remove inconveniences or to gain apparent and contiguous advantages, arrive at ends which even their imagination could not anticipate, and pass on in the track of their nature without perceiving its end. He who first said, ‘I will appropriate this field; I will leave it to my heirs;’ did not perceive that he was laying the foundation of civil laws and political establishments. He who first ranged himself under a leader, did not perceive that he was setting the example of a permanent subordination, under the pretence of which the rapacious were to seize his possessions, and the arrogant to lay claim to his service.” *Ferguson’s Essay on Civil Society.*

The principal forms of government, and their respective influence on the well being of society, constitute a leading feature in POLITICAL GEOGRAPHY, and require a brief description. These various forms may, perhaps, be arranged with sufficient discrimination for the present purpose, under the three distinct heads of *Democracy*, *Aristocracy*, and *Monarchy*, each of which forms, however, is subject to a variety of modifications.

DEMOCRACY is the usual system of government in the primitive states of society, where each individual has an equal share in legislating for the community, and exercises that power in person. Another shade of democracy is that in which the supreme power is committed to the management of a council chosen by the people, to whom they are accountable for their transactions, and by whom they can be dissolved at pleasure. This council, therefore, is not composed of the representatives of the nation, but of its servants entrusted with the execution of the sovereign power, which still subsists in the body of the people. Another state of representative democracy is that in which the supreme power is exercised by magistrates, chosen by the people whom they represent. These, in their collective capacity, are the sovereigns, and are not responsible to those by whom they were elected.

ARISTOCRACY nearly resembles a representative democracy. But in this the representatives are not chosen by the people but by certain privileged classes, to whom that prerogative belongs. In some instances this class of electors is chosen by the people, and is open to any citizen upon whom the choice may fall. In others, the aristocratical body is hereditary, and consequently renewable without the concurrence of the general body of the people, who in some instances have still held the supreme power in their own hands, though both these aristocratical bodies are in active existence. In this case the form of government has been denominated an *aristo-democracy*. Rome, after the expulsion of the Tarquins, presents an apposite example, in which the *patricians* were the hereditary aristocratical body, the *senate* the elective branch, and the *assemblies of the people* the democratic part.

MONARCHICAL government exists under various forms, and is subject to numerous modifying denominations. The grand distinctions, however, are into *hereditary* and *elective*, *absolute*, and *limited*. In the first, the sovereign authority is confined to the members of a certain family, and the order of descent in that family is fixed. In the second, an election takes place whenever the throne becomes vacant. This election may be variously modified. It may depend entirely upon the choice of the people, or upon that of any electoral body in whom that power is vested; or, lastly, upon the choice of a single elector, who can nominate the ruling prince, but not exercise the sovereign power. Absolute monarchy is that state of government in which the supreme power is entirely confided to an individual, or to others of his appointment. In this case a further distinction occurs: the monarchy is said to be *absolute*, when the supreme power is acknowledged to have been derived from the people, and

despotic, when the reigning prince pretends to have derived his power immediately from God, or his sword. A *despot*, therefore, considers himself as much the master of his country and his subjects, as any other individual does of his land and his cattle. The wanton exercise of this power, according to the passions or caprice of the sovereign, rather than the welfare of the people, constitutes *tyranny*. When the supreme power is divided between the monarch and other national assemblies, either hereditary or elective, it forms a *limited monarchy*, or mixed government. The combinations under which this species of power may exist, are so various that they cannot easily be classified. England, however, affords a noble example, both of the wisdom that may preside in its formation, and the benefits which may result from its steady administration.

The idea that is conveyed by the term **CONFEDERATION**, or **FEDERATIVE SYSTEM**, is that of several states having each a government peculiar to itself, uniting for their common advantage or mutual defence. When each member of the confederacy has equal privileges, it forms a democracy of states. Such is the government of the American and German States, and of the Cantons of Switzerland. The word *anarchy* is usually employed to denote the absence of all legal government, and may be understood in two different senses; either as indicating a civil society without any supreme power, or the domination of an usurped and illegitimate authority.

Various other elements are included in political geography, upon many of which government exercises a strong influence. The chief of these are *extent of territory*, and the *value* of its productions, either as articles that form the immediate support of the population, or supply the materials of their manufactures and commerce. The productions of the three kingdoms of nature, therefore, are of this class; but their approximate value is often known to the government alone; and its official documents are carefully preserved in the archives of state. Consequently, the accounts which geography presents on this subject, though collected with the greatest care, cannot always be correct. Another material element in the estimate of the power and resources of a nation is its *Industry*; particularly in its application to manufactures and commerce. It was this that concentrated the treasures of the ancient world on the rock of Tyre, and the sandy plain of Alexandria. It was this, too, which in more modern times, constituted the grandeur of Venice and the power of Holland; and it is to this, also, that Britain is indebted for much of that elevation she has attained among the nations of Europe. *Population* is another item in the composition of national power. The proportion between the deaths and the population already stated, supplies a method of calculating the number of the latter when that of the former is unknown; but the only certain means of ascertaining the correct amount is by an actual census. This knowledge is the proper basis of every good financial system, and the foundation of military power. The men capable of bearing arms, are usually about one-fifth of the whole population. In cases of the greatest extremity, however, not more than one-eighth can be actually armed; and even of this the history of modern Europe presents no example. The ratio between the territorial extent and the population is also an interesting subject. A country is considered as well peopled when it contains about 1000 inhabitants for every square geographical league. England contains more than 1700 on this space; but the other parts of the British dominions are less populous.

The union of all these elements forms the basis of national **REVENUE**, which must always vary according to the nature and extent of the country, the productions of its soil, the effects of its industry, and the amount of its population. Political geography, therefore, gives the revenue of each state with the principal resources from which it arises.

In estimating the characters, and balancing the state of nations, **RELIGION** and **MORALS** are

the most interesting topics of inquiry. Religion, in the general acceptation of the term, implies the manner in which different nations manifest the sentiments they entertain relative to the Invisible Power who created and governs the universe. The lowest step in the scale of Polytheism is that which has been denominated *fetichism*, or the adoration of things both animate and inanimate. These absurdities prevail on the coast of Guinea, and among other savage tribes. This is only one of the various branches of Polytheism which is spread over a great part of the Old, as well as much of the New, World. The *Sabeans*, another sect of Polytheists, worship the heavenly bodies. The Brahmins suppose the Deity to be disguised under a variety of forms, divine, human, and animal. The worship of the *Dalia Lama*, denominated *Schamanism*, is spread over Tartary, Mongolia, and Siberia. Buddhism is another branch of Brahminism, and includes the religion of *Foh*, which is that professed by the multitudes of China. The various other sects and shades of difference in religious worship are too numerous to particularize, except the generic names of Judaism, Mahometanism, and Christianity. It is almost impossible to estimate the number of individuals included under each of these denominations. But, according to the Rev. *Hugh Pearson's* calculation, if the total population amounted to a thousand millions, it would consist of

Christians	175 Millions.
Jews	9
Mahometans	160
Pagans	656

1000 Millions.

Of all the causes which influence national character, and give a peculiar tone to the feelings, a bias to the views, and a direction to the pursuits of men, the agencies of GOVERNMENT and RELIGION are the most direct and decisive. Ancient and Modern History confirm this general truth. The austerity of the Spartan, and the wisdom of the Athenian, lawgiver were equally exemplified in the effects which their systems produced on the minds and manners of those who were subject to them. *Lycurgus* seems to have had no other object in view than to form a community of patriots and soldiers, which he accomplished at the expense of every social and domestic enjoyment, and of all the endearments of life. Even the very stability of the state, and the military renown of the people, had their foundation in the misery of individuals. *Plutarch* says, that the Lacedaemonians were a nation of statesmen and soldiers, unequalled in courage and military discipline, but insolent, ambitious, and cruel: destitute of refinement, and making a very slow progress in civilization. Lacedaemonia displayed none of those masterpieces of architecture, sculpture, and painting, that adorned Athens and the other cities of Greece. The axe and the saw were for a long time the only tools employed in the construction of their houses and furniture. The elegant arts were not esteemed, and were therefore neglected. Gymnastic exercises were almost their only amusements; and the maxims of policy and war, with the subservient art of oratory, completed the circle of their liberal studies. Even their eloquence, which was the only branch of literature they attempted to cultivate, was merely remarkable for its pointed application and sententious brevity. The oratory of the Spartans displayed none of that dazzling eloquence which was co-existent at Athens, and subsequently electrified a Roman audience. The grand object of their public preceptors, under whom all the children were brought up at the expense of the state, “was to render them bold, vigilant, and skilful warriors, to inspire them with a high sense of honour, a desire of applause, and an apprehension of disgrace, to inculcate a love of their country

superior to any other consideration ; and to mould their passions, sentiments, and ideas to the genius of the constitution ;" and in this they so far succeeded, that it was impossible not to acknowledge the manners and character of the people as the legitimate offspring of the government.

The constitution of Athens presented a complete contrast to that of Sparta. It opened a wide and inviting field for the exercise of all those powers and passions by which the man of genius, as well as the votary of ambition, might ascend through every gradation of society, and claim the proudest honours of the state. Talents conferred the highest distinction, and popularity alone was the road to honour ; but while it thus fostered the noblest principles of the human mind, it favoured licentiousness, and all the disorders that can agitate a nation. The number of great men whom Athens produced, and whose labours have instructed and delighted posterity, are so many evidences that the Athenian constitution was calculated to give scope to emulation, energy to genius, and dignity to man. But the passions were at the same time unrestrained, and constantly verging towards the greatest excess. This induced *Burke* to say, in reference to Athens, " This is the city which banished Themistocles, forced into exile Miltiades, drove out Anaxagoras, and poisoned Socrates." Though the distance between Lacedæmon and Athens did not much exceed a hundred miles, the manners and character of the Spartans and Athenians were as opposite as if the seas of half the globe had rolled between them ; and as their governments presented such a contrast, the difference must in a great measure be ascribed to this source. The Greeks of ancient times, and those of the present day also, afford a contrast equally striking, and illustrate as powerfully, the influence of political and moral causes.

The history, manners, and character of the Romans are subjects too familiar to need much elucidation. During a long period of their early existence as a nation, the citizens were restrained by law from devoting themselves to any other pursuits than those of agriculture and arms. Other arts and sciences were, therefore, considered as effeminate and disgraceful, and were looked upon as the occupation of slaves. This practice, which was first established by Romulus, and subsequently confirmed by the Republic, had a great influence in forming the minds of the Romans, not only to particular pursuits, but to the exhibition of a distinctive character. The Roman was a patriot and a warrior. The science of government and war, with the subsidiary art of eloquence, were long the only objects that occupied the mental powers of Rome. Her history, poetry, and science, were the growth of after ages, the fruits of time and circumstances. Even her eloquence was of a peculiar and national character ; in which the magnificent and electric sounds of " eternal Rome," and the " majesty of the Roman people," perpetually reverberated in the ears of the listening audience, and displayed their magic influence on their minds, by the lofty ideas, the thirst for military glory, and the unbounded ambition of extending their empire, which the Romans constantly manifested ; and which were always accompanied with unshaken confidence in their own power, and the most undisguised contempt for their enemies.

From this slight sketch of some of the most renowned governments of antiquity, it is obvious that the Republic of Sparta was a singular species of tyranny, the very foundations of which rested upon the ruins of human happiness. It was admirably adapted for moulding the minds of the citizens to a particular standard of patriotism ; and this it accomplished at the expense of every social and domestic affection. The effects of such a system may easily be anticipated. A Spartan not only differed from the inhabitants of Greece, but from the people of all other countries. He was brave and politic ; but austere and inflexible. Apparently divested of the common feelings of human nature, he was taught to consider every

thing of an individual kind as beneath his attention, and the commonwealth alone as the object which ought to engross every faculty.

Athens presented a different picture. Free from the severe restrictions imposed by the Spartan laws, but equally ambitious of glory, she impressed upon her citizens a totally opposite character. Her free constitution was designed to give ample scope to individual views, exertions, and taste ; but as this freedom soon degenerated into a licentious and turbulent democracy, it gave rise to numerous evils, which appear as dark clouds hanging on the horizon of her brightest day. Each Athenian, unshackled by restraint, sought honour and applause in his own way ; and hence these were pursued in all the various paths that could present themselves to a multitude of ardent and ingenious minds, each grasping at the common objects, the honours of the state, and the applause of men. Letters, arts, and arms were cultivated with equal ardour, till Athens became the instructress, as well as the admiration, of mankind.

During the early ages of the Roman republic, the institutions of this renowned people present a medium between those of Athens and Sparta. Her political system was more guarded than the one, but less rigid than the other ; and the character of her citizens combined the freedom of the Athenian with the bravery of the Spartan. Before the termination of the Punic wars, the austerity of the Lacedæmonian, was the prevailing trait of the Roman citizen ; but after Carthage had been vanquished, when Greece had submitted to the Roman arms, and Asia Minor and Syria had been added to their empire, other models were presented to their view, and solicited their imitation. Luxury held forth her allurements, the tinge of Spartan austerity which had distinguished the early republican of Rome, began to fade, and the brighter colouring of the Athenian assumed its place, till the one was wholly absorbed by the other.

These examples, which might be amply enlarged from the catalogue of modern times, leave no doubt as to the influence of government on the developement of the mental and moral powers of man ; and if its effects appear in these instances to be much greater than can be traced in the nations of modern Europe, it is because they are less contracted by other causes. Freedom uniformly invigorates and expands the mind, while restriction paralyzes it, in modern as well as in ancient times. This would be fully verified by a survey of the most popular and despotic governments of our own age : for if we commence our route with the rising sun, and accompany him in his apparent western progress, we shall find that China, Hindostan, Persia, and Turkey, all exhibit the deteriorating influence of barbarous conquest and despotic rule. But without attempting to analyze the different shades produced in the mental picture by these varied systems of despotism, it will be sufficient to call to mind the degeneracy of the Greeks, as they now exist under the baneful oppression of Ottoman tyranny. The local situation and physical circumstances of Greece still remain the same as when the ancient inhabitants contended with such glorious success, for their independence and political freedom, against the overwhelming power of Asia.—The same climate envelopes them, and the same local scenery invites them to contemplation, as at that period which gave birth to those productions, the very remains of which still render Greece the object of wonder and reverence. “The Greeks long continued to be a polished and literary people. Even under the Ptolemies, in Egypt, they became a more learned and philosophical people than they had ever been during the days of their brightest glory at home ; but they no longer existed as a nation, and with their identity as a people, their strength of feeling and the peculiar tone of their spirit was for ever lost ; and subsequent events have completed the picture.” A recent and accurate observer ascribes their present degradation to the state of slavery in which they are held. “Their life is a perpetual struggle against truth ; they are vicious in their own defence. They are so unused to kindness,

that when they occasionally meet with it, they look upon it with suspicion, as a dog often beaten snaps at your fingers if you attempt to caress him. 'They are ungrateful, notoriously ungrateful!'—This is the general cry. Now in the name of Nemesis! for what are they to be grateful? Where is the human being that ever conferred a benefit on Greek or Greeks? They are to be grateful to the Turks for their fetters, and to the Franks for their broken promises and lying counsels. They are to be grateful to the artist who engraves their ruins, and to the antiquary who carries them away; to the traveller whose Janissary flogs them; and to the scribbler whose journal abuses them! This is the amount of their obligation to foreigners."—*Lord Byron's Childe Harold*, Notes on the Greeks.

The natural effect of a free and popular government is to favour every species of mental exertion; but though despotic governments generally deaden the rising genius, and cramp the noblest exertions of the mind, they are not equally inimical to all the arts and elegancies of life. Those arts which contribute to magnificence and splendour, have frequently been patronized by absolute princes; but the noblest species of literature, and the boldest efforts of eloquence, can only flourish in a free country. They immediately droop and die when exposed to the pestilential breath of despotism. The loftiest strains of oratory were heard at Athens, while the Athenians were a free people; but when their liberty expired, those strains were heard no more. Rome witnessed the same effect, springing from the same cause. Genius finds a fostering element in the freedom of the British Constitution, and shines with peculiar effulgence in the free-born ardour of the British Senate.

All the physical and moral causes yet enumerated, relate to man only as an inhabitant of the present world; but as he is an immortal being, the agency of RELIGION, which is chiefly directed to his existence beyond the grave, cannot be destitute of influence. Forms of government operate most powerfully upon man in the business and bustle of life, but religion in his calm and retired moments. The one can only curb the excesses of the passions; the other regulates the will and purifies the heart.

Opinions, when transmitted from one generation to another in the form of doctrines or maxims, have a considerable effect on the conduct of those by whom they are received. "The history of the world shows, in almost every page, the influence of religion on the minds and manners of men, on social circumstances and national character. The religion of the Greeks was favourable to the active and cogitative powers of man. Jupiter was ever ready to support supreme sway, when lawfully acquired and justly administered. Minerva was the constant guardian of valour, directed by prudence and aided by skill. Mars gave victory to daring courage. Ceres assisted and rewarded the labours of the husbandman. Mercury presided over eloquence, mercantile transactions, and all the ingenious arts; while Apollo and the Muses inspired the song of the poet, and raised his imagination to the height of divine enthusiasm. This very useful and laudable pursuit had its celestial protection and patron: and the rewards held up to merit in the Grecian Elysium, tended to stimulate valour, and animate the exertions of genius and talents."—*Historical Display*.

But the worship of such divinities neither inspired morality nor repressed licentiousness. It tolerated and excused vice; and the character of the Greeks was in perfect unison with their religious profession. They were adventurous, valiant, ingenious, turbulent, and cruel.

The founders of religious institutions among the Romans evidently copied the Grecian model, but divested it of many of its most corrupt appendages; and the effect was, a comparative elevation of mind and purity of morals. The religion of Rome was the complete engine of the state; and its defects, therefore, were always more evident in the national than in the individual character. Oracles, auguries, and auspices were the powerful instruments by which

the Roman rulers governed a numerous and turbulent multitude, collected from the various states of Italy and the adjacent countries. The same authority regulated their conduct in the camp as in the city, and was frequently employed by the sagacity of their generals to produce those prodigies of valour which raised an undisciplined banditti to the sovereignty of the world. The effects of religion on the minds of the Romans, however superstitious its origin and erroneous its principles, will readily be conceived from the pageantry with which it was accompanied, and the manner in which it was employed.

“The patriotism, the valour, the greatness, and glory of Rome rested on the basis of religion. The Capitol placed in the most commanding situation, overlooking the forum immediately below, and affording a prospect of the city, and of Latium, as far as the Alban Mount and the Appenines, was both a fortress and a sanctuary, surrounded with precipices, crowded with temples and altars, the repository of the fatal oracles, and the seat of the tutelar deities of the empire.”—“Here,” says an elegant writer, “stood the temple of Jupiter Capitolinus, on a hundred steps, supported by a thousand pillars, adorned with all the refinements of art, and blazoned with the plunder of the universe. In the centre of the temple, with Juno on his left, and Mercury on his right side, the thunderer sat on a throne of gold, grasping the lightning with one hand, and in the other wielding the sceptre of the universe. Hither the consuls were conducted by the senate to assume the military dress, and implore the favour of the gods before they marched to battle. Hither the victorious generals used to repair in triumphs, to suspend the spoils of conquered nations, present captive monarchs, and offer up Hecatombs to Tarpeian Jove. Here, in cases of danger and distress, the senate was assembled, and the magistrates convened, to deliberate in the presence, and under the immediate influence, of the gods of Rome.”

But of all the nominal systems of religion ever invented by man, none ever had an influence equal to that of Scandinavia, in fostering the ferocious spirit of barbarians, and impelling its votaries to rapine and carnage. The leading doctrine in the Gothic creed was, that *Odin*, their principal divinity, immediately received the souls of such as fell in battle, and with whom they for ever resided in the magnificent palace of *Valhalla*, the eternal abode of the gods, where they were constantly occupied in slaughtering each other, in feasting on the flesh of the boar, and intoxicating themselves with large draughts of mead from the skulls of their enemies, presented by the hands of virgin beauty. But such as either fled from their enemies or died a natural death, were condemned to a perpetual residence in *Nistheim*, the Scandinavian hell, the eternal abode of sorrow, and the assemblage of every other horror that could affect the Gothic imagination, or impel the votaries of *Odin* to despise the arts of peace, and rush, undaunted, to the field of battle. The deductions of reason and the records of history, bear equal testimony to the effects of such a system; and many of the fairest regions of Europe still present examples of its influence. Another of their doctrines was that of *Fate*, and individual destiny, which nothing but *Odin* himself could avert or controul. Formed upon such a basis, their terrific and martial creed could not be destitute of a corresponding ferocity of character; and the *Lodbroker Quida*, or death song of Lodbrog, supposed to have been written by the wife of that chieftain so late as the 9th century, is worthy of having been “dictated by the demon of slaughter, and may be estimated a genuine emanation from the deity of *Valhalla*.” The whole of the images it unfolds are of the most fearful description, and exhibit a state of society more horrible than has ever been imposed on any other portion of the human race.

If we were to pursue the subject through all the diversified systems of religious belief, we should find a similar correspondence between the doctrines embraced and the character exhibited. The infuriated zeal of the Mahomedan conqueror were from the principles of

their religious belief ; but it is too familiar to every historical student to need repetition. Its barbarizing effects in the subsequent eras of its progress, are strongly displayed in the character of all the nations who still adhere to the doctrines of Islamism ; and they have been emphatically expressed by *Sismondi*, in his literature of the South of Europe, in which he asserts, “ that regions once flourishing and fruitful have, by the influence of Mahomedanism, been converted into barren deserts, for the possession of which tyrants contend with tigers.” Though time has now dissipated much of that fiery zeal with which the doctrines of Islam were first propagated, the real characters of those who have embraced them have experienced but little melioration.

The effects of a peculiar religious belief are strongly exemplified throughout the extensive regions of India, where the genius, emulation, and enterprise of the Hindoos, are buried beneath the most immense fabric of superstition that priestcraft has ever raised, not only over the consciences, but over the common sense of man. “ The affairs of government, of judicature, and police, down to the most minute forms of social and domestic intercourse,” (says Col. Wilks,) “ are all identified with their religious observances ; the whole is sacred and inviolable ; and the ideas attached to improvement and profanation can scarcely be distinguished from one another.” It is not possible to conceive more powerful means of degradation than their separation into castes, and the impassible gulf which divides them, together with the multiplicity of strange and often contradictory doctrines inculcated by the Brahmins, strengthened as they are by the constant necessity of applying to them for the purpose of dispelling the doubts and perplexities which this artful system is so well adapted to excite. All the sketches of the Hindoo character, by the most acute observers, correspond with what reason alone would deduce from such a superstitious tyranny. The same connexion may also be traced between the doctrines of other prevailing systems of error, and their effects on the human character.

But, if these systems of falsehood, these incongruous masses of superstition, these delusions of human invention, can so influence the character of man, how much more impressive must be the doctrines of eternal truth, and the direct communion of the soul with its Maker, through the medium of his Holy Spirit ? Instead of deluding the mind with the off-spring of ignorance and superstition, of fiction and fraud, genuine christianity inculcates the true knowledge of the Deity ; the superintendence of His providence, and the revelation of His will, as it regards the moral character of man. All other systems were mere partial codes which extended to the actions only, but this is universal, and reaches the heart. It teaches man that he is accountable for his thoughts as well as his actions. When Christianity made its divine appearance, amidst the multiplicity of vague and confused ideas that agitated and perplexed mankind, it dispelled the mist that darkened the human intellect ; discovered to man the aim and end of his being ; removed the veil which had concealed his final destiny ; and developed the important truth, that the whole history of the world is only a single page in the mysterious volume of Divine Providence. “ Christianity was the celestial telescope that opened to human view the magnificent prospect of eternity.”

The direct tendency of Christianity is to cherish every virtue that enhances the felicity, and to prohibit every vice that disturbs the peace, of society. It displays its beneficent effects in the relief of human distress ; in the expansion of benevolence ; in mitigating the horrors of war ; in banishing Polygamy ; in abolishing infanticide ; in prohibiting human sacrifices, and in breaking the shackles of slavery. Its fundamental principle being the equality of all men in the sight of that Omnipotent Being who made them, and before whose righteous tribunal they must all appear, when every earthly distinction shall have passed away, it is

highly favourable to the exertions of the human intellect ; and it is doubtless to its influence, that the inhabitants of Europe are indebted for much of that superiority which they now possess over the rest of the human species. Wherever the benign influence of Christianity has been felt, it has uniformly been the harbinger of literature, science, and civilization. It enlightens the understanding, elevates the affections, and purifies the heart ; thus transforming the barbarian into the man ; the man into the christian ; and the christian into the image of his Maker.

The illustration of these and various other effects, which the influence of genuine religion produces on the human character, is exhibited in the history of those nations, but more especially in the biography of those individuals, who have imbibed its spirit and obeyed its precepts. These display acts of heroism, deeds of benevolence, examples of magnanimity, patterns of purity, and prodigies of every virtue, as far surpassing whatever has been produced by any other system, as the motives which christianity inspires, the views it unfolds, and the rewards it promises, exceed every thing that could be conceived by man.

Besides the great and permanent causes that operate so powerfully on the human character, there are others of a secondary nature which have a more indirect or partial effect ; but when they operate either in conjunction with those that are more powerful, or in combination with each other, their influence is often conspicuous. Among the principal are education and habit ; peace and war ; political events ; literature, arts, and employments ; attachment to country, the natural enthusiasm of man, and those associations of ideas which arise from particular circumstances.

The similarity in children and the difference in men are such striking proofs of the effects of *Education and Habit*, as to be capable of just appreciation by the most superficial observer. An elegant and philosophical writer on this subject observes, “ the prodigies effected by human art in all the objects around us—laws—government—commerce—religion—but, above all, the records of thought preserved in those volumes that fill our libraries : what are they but experiments by which nature illustrates for our instruction, on her own grand scale, the varied range of man’s intellectual powers, and the omnipotence of education in fashioning his mind.” *Dug. Stewart’s Phil. Ess.*

Habit, indeed, is only an inferior species of tuition, and the bias it gives to the mind is of the same nature. One example will be sufficient to show the influence which education is capable of exercising in the formation of human character ; and it is the most memorable which history presents. The Jesuits have always excelled in the art of education, and in forming the minds of their pupils to a *common* standard, the perfect identity of whose characters furnishes the most complete demonstration. A judicious writer has remarked, that “ in every part of the world, a Jesuit was the same kind of being in regard to his ideas, prejudices, and views ; and the whole society, dispersed into every quarter of the globe, was one vast body, animated by the same soul.”

The destructive and demoralizing effects of *War*, and the meliorating fruits of *Peace*, as exhibited in their influence on the advancement of agriculture and commerce, of literature and science, need not be dwelt upon. Political events have frequently exercised the greatest influence over the destinies and characters of nations.

The characters of nations, as well as of individuals, are influenced by their objects and pursuits. The Roman was a soldier, the Carthaginian a merchant. The one grasped the sword as the only instrument that could open his way to honour and distinction—the other retired to his mercantile transactions to pursue the same object. The one nation found her armies nurtured in the dwellings of her people—the other hired them with the produce of her

of association, and of its capability of being excited by apparently the most trivial and incidental circumstances. Mr. *Ives* was travelling from Persia to England, and after passing the wearisome plains of Mesopotamia, he remarks, "This day, for the first time since we left England, we saw a wild goldfinch, which settled on a thistle close to our tent. The sight of this little agreeable songster gave us exquisite pleasure, owing to the single consideration that birds of this kind were inhabitants of Britain. This thought set before our heated imaginations all those gilded scenes of delight that we supposed were to be found only in that happy region, and which, with wishes bordering on enthusiasm, we were now praying to enjoy. We panted for our mother country, that '*Natale Solum*,' so pathetically described by the poets, and so sensibly felt in every human breast, after a long and painful separation. We could not help looking upon this tuneful goldfinch as a fellow citizen, who had kindly flown thus far to bid us welcome, to raise our drooping spirits, and signify to us that we were drawing nearer to our native country, that land of liberty, after which we had so long and so passionately sighed."—*Journey from Persia to England.*"

To trace the sources from which this sentiment arises, and delineate its operations on the human mind, in ancient and modern times, either in its simple state, or when refined by civilization into the idea of patriotism, would form an instructive theme; but one which, from its extent, is altogether incompatible with the present sketch. The slightest consideration, however, must lead to the conclusion, that such a feeling cannot but be influential in the formation of the human character.

The power of *Association*, above alluded to, is also another of those secondary causes which operate in producing the same compound character. It is, indeed, by men of genius and taste that these associations are most powerfully felt; but as it is also from these individuals that the public mind derives much of its peculiar tone, they cannot be destitute of general effect. This influence arises from the diversified combinations of intellectual qualities, habitual acquirements, and external circumstances, by which an inherent taste, or a liberal education, may have qualified the individual for participating in the pleasures, and experiencing the effects of those associations. How various are the feelings excited, and the associations created, by viewing the classic regions, and mouldering monuments of Greece and Rome, the consecrated ground of Judea, the frightful sterility of the African desert, the ever-springing verdure of the East, or the stupendous phenomena of the New World! In surveying the academic groves of Greece, and the classic plains of Italy, the ideas imbibed during our early years are recalled, and those associations which have entwined themselves with the early pleasures and buoyant hours of life are renewed. But here all is retrospect! The source of our interest is changed when we visit the land of the ancient Israelites; there we are not only led to contemplate the past, but to *feel* its connexion with the future; not only to witness the fulfilment of threatenings, but to look for the final accomplishment of promises; not merely to view the display of Almighty power, but to adore the exercise of Infinite mercy.

An elegant writer, in alluding to the emotions excited by viewing the relics of Rome, says, "It is ancient Rome that fills the imagination. It is the country of Cæsar, and Cicero, and Virgil, which is before him. It is the mistress of the world that he sees, and who seems to him to rise again from the tomb and give laws to the universe. All that the labours of his youth, or the studies of his maturer age have acquired, with regard to the history of this great people, opens at once upon his imagination, and presents him with a field of high and solemn imagery which can never be exhausted. Take from him these associations—conceal from him that this is Rome which he sees, and how different would be his emotions."—*Allison on Taste*. Contrasting the associations arising from such scenes with those

which the capital of Judea excites, it is observed by another author, "In viewing the site of Ilium, or the remains of Athens and Rome, we contemplate a vast funeral procession which conveys individuals, kingdoms, and empires to the tomb. Jerusalem presents to our recollection a different scene—a scene unique in the world. It exhibits a memorial of heaven with earth, of that great event which fixes the magnificent destiny of man : which, instead of exciting lugubrious reflections on the shortness of life, and the instability of human power and splendour, inspires the mind with views beyond the grave, with hopes that extend to eternity."

We shall now conclude this sketch with a few extracts relative to the principal causes that facilitate or retard the progress of Literature, Science, and Art ; or delineate the beneficial re-action of these upon society. The influence of these causes has been sketched with such a masterly hand by Mr. *Roscoe*, the elegant historian of *Lorenzo de Medicis* and *Leo X.* that we shall not hesitate to present his observations to the attention of our readers ; to many of whom they will doubtless afford both delight and instruction. After touching upon various circumstances which have been supposed to produce those vicissitudes, which hold so conspicuous a place in the history of the human mind, he portrays those which he conceives to be more intimately connected with the subject in the following manner :—

"According, then, to the degree of confidence which any government has in its own stability, will, in general, be the liberty allowed to the expression of the public sentiment, and in proportion to this liberty will be the proficiency made in literary pursuits. Nor must this freedom of opinion and expression be confined to particular subjects. Few governments, however arbitrary, have attempted to restrain inquiries purely scholastic, the studies of classical literature, or the pursuits of scientific curiosity ; but this is not sufficient for the interest of letters. Debarred of expatiating at large on those more important subjects which involve the regulations of society in politics, in morals, in manners, and in religion, the human faculties become contracted, devoted to minute and trivial discussions, and unable to operate with vigour and effect even upon those subjects which are permitted to their research." "But in a state which partakes of a popular government, the path to distinction, to honour, to wealth, and to importance, is open to all, and the success of every individual will, in general, be in proportion to his vigilance and his talents."

"It would, in fact, be in vain to expect that the arts and sciences should flourish to their full extent in any country where they were not preceded or accompanied by a certain degree of stability, wealth, and competency ; so as to enable its inhabitants occasionally to withdraw their attention from the more laborious occupations of life, and devote it to speculative enquiries, and the pleasures derived from works of art. Whenever any state has obtained this enviable pre-eminence, and enjoys also the blessings of civil and political liberty, letters and arts are introduced, not indeed, as a positive convention of any people, but as a natural and unavoidable result. Nor has the cultivation of these studies been injurious to the prosperity, the morals, or the character of a people. On the contrary, they have usually exhibited a re-action highly favourable to the country where they have been cherished ; not only by opening new sources of wealth and exertion, but by exalting the views, purifying the moral taste, enlarging the intellectual and even the physical powers of the human race, and conferring on the nation where they have once flourished, a rank and a distinction, in the annals of mankind, the most honourable that can be attained."

After showing the intimate connexion between science, wealth, and national prosperity, the same writer remarks ; "It would, however, be as degrading to ourselves, as it would be unjust to the dignity of science, to estimate her importance only in a direct and pecuniary point of view. That she has in this respect amply repaid the efforts that have been made for her encouragement, will be readily allowed ; but is this the whole of her merits ? Are the powers of the mind to be considered merely as subservient to the accommodation of our physical wants, or the gratification

of our selfish passions? Is it nothing that she has opened our eyes to the magnificent works of creation? That she has accompanied us through the starry heavens? Descended with us to the depths of the ocean? Pierced the solid rock? Called in review before us, the immense tribes of animal and vegetable life, and from every part of the immense *panorama* of Nature, has derived an infinite source of the most exalted pleasure and the truest knowledge? Is it nothing that she has opened to our contemplation the wonderful system of the moral world? Has analyzed and explained to us the nature and qualities of our own intellect? Defined the proper boundaries of human knowledge? Investigated and ascertained the rules of moral conduct, and the duties and obligations of society? Whatever is wise, beneficent, or useful in government—in jurisprudence, in political economy, is the result of her constant and indefatigable exertions—exertions which always increase with the magnitude of the object to be attained.”

In treating of the benefits which society derives from the cultivation of *Literature*, this elegant author, having enumerated several instances in which its effects are direct and obvious, enters more generally into its advantages, and observes, “Other branches of study have their peculiar objects of inquiry: but her’s are unlimited and universal, and she may be considered as the support, the nurse, and the guardian of all the rest. Whether the discoveries of science are to be explained and recorded, whether the principles and connexions of the fine arts are to be illustrated, whether the rules and institutions of society itself are to be demonstrated and defined—it is she who is entrusted with the important office. It is her peculiar task to express, and as it were to embody and clothe our ideas in clear, appropriate, and unequivocal language, to preserve and improve the purity and accuracy of expression, so as to render the communication and interchange of mind still more definite, clear, and perfect. It is, indeed, easy to throw an air of ridicule or contempt on the multifarious labours of lexicographers and grammarians, as it is, when we walk through a well-ordered garden, to turn a glance of pity or indifference on the humble labourers who are binding up the flowers, or eradicating the weeds; but it must be remembered, that without these labourers, the garden would soon become an inextricable wilderness or a useless waste. Let us call to mind the darkness of the middle ages, that long and feverish sleep of the human intellect, and ask to what circumstances we are to attribute our restoration to day light and to exertion. A few mouldering manuscripts, long hidden in the recesses of monastic superstition, and discovered by the early students of words and syllables, served in a short time to excite throughout Europe the most ardent desire of improvement. The immense gulf that had separated the human race, was no longer a barrier. The strong influence of kindred genius was felt through the interval of two thousand years; and the scholars of the fifteenth and sixteenth centuries, were better acquainted with the sentiments and views, the talents and acquirements, of the ancient Greeks and Romans, than with those of their own countrymen in the century immediately preceding them. If, indeed, the gift of speech and the communion of ideas be essential to the human race, how must we honour these studies, that not only perpetuate the voice of former ages, but open an intercourse between nation and nation, and convert the world into one country? Or how can even the political and commercial concerns of a people be conducted with safety and advantage, except by an acquaintance with the language, the customs, and the manners, of those with whom our transactions are to take place?”

“Will it then be said, that these studies and occupations, which extend to the most important objects of human inquiry and pursuit, and yet intermingle themselves in the daily and hourly concerns of life, which improve the understanding, *charm* the imagination, influence the moral feelings, and purify the taste, are adverse to the interests and injurious to the character of a great community? If such had been the case, is it likely that states and kingdoms would have contended for the honour of having given birth to those illustrious persons, whose names adorn the annals of past ages? or

is there any circumstance that throws over a country a brighter lustre, than that which is derived from the number and celebrity of those men of genius to whom she has given rise."

The re-action of literary and scientific knowledge on the characters of nations, and the opinion which posterity forms of them, has been ably sketched by *F. Schlegel*, in his first lecture on the history of Literature. But the following brief summary must suffice.

The history of the world displays the influence of literature and science on the character of nations in almost every page. It is those rich stores of thought, and that energy they impart to the intellectual faculties, that elevate one nation most conspicuously above another. It is those national recollections and associations which are derived from the deeds of past ages, and perpetuated and adorned by the magic touch of literature, that impart a peculiar and ennobling tone to the feelings of a people; and, by elevating them in their own estimation, raise them in that of others. Nation after nation have risen and sunk—have acted their parts on the stage of time, and displayed all those deeds of heroism of which untutored nature is so prolific; and yet their whole history is now comprised in one short but expressive sentence—"They were, and are not." Others who have mingled more of their mental energy with their physical power, have transmitted their fame to posterity. The influence of their conquests has been felt, and their vicissitudes known in subsequent ages, but remarkable actions, and strange catastrophes, are of themselves insufficient to command the admiration of posterity. This is an award bestowed on those nations only who have left ample testimony that they were themselves conscious of the greatness of their deeds, and capable of depicting their own history. A people whose days of glory and victory have been celebrated by the pen of a *Livy*, whose misfortunes and decline have been bequeathed to posterity in the pages of a *Tacitus*, stand proudly pre-eminent, and are in no danger of ever sinking with the common mass, into the gulf of a nameless oblivion. But it is the strength of their intellect, and the genius of the historian, that give them their interest, and perpetuate their fame.—It is the power of literature that forms the communion between the past, the present, and the future, and will stamp the character of the present day on ages yet to come.

The poet, the painter, and the sculptor, though endowed with all the power of these magic arts, and capable of embodying the noblest flights of the imagination, and fixing the ever-varying forms of fleeting thought, can be known and appreciated by few during their own existence—even should the Philosopher investigate the structure and properties of the whole physical universe, and scrutinize the utmost depth of human thought, his fame would, perhaps, be still more circumscribed. But the sphere of their influence extends with the progress of ages, and their names grow brighter and broader as they grow old.—The fame of Greece found a more stable basis in the intellectual labours of Homer and Socrates, than in the laws of Solon, or the exploits of Alexander.—The genius of the poet, and the wisdom of the philosopher, have had a much greater influence on the subsequent ages of the human race, than all the institutions of the Athenian lawgiver, and all the transcendent victories of the Macedonian conqueror.

CHAPTER V.

DEFINITIONS, ILLUSTRATIONS, AND SYNOPTICAL TABLES.

A.

ALTITUDE, of any heavenly body, is the arc of a vertical circle, comprised between the centre of that body and the horizon, at any given instant. Its magnitude is, therefore, estimated in degrees and minutes.

Observed Altitude is that which is immediately found by observation, or previously to its being subjected to those corrections that are necessary to be made before it can be employed in astronomical calculations.

Apparent Altitude is that which has been corrected for the Dip of the Horizon only. See **HORIZON**, *Dip of*.

True Altitude is that which has been corrected for Refraction and Parallax, as well as for the Dip of the horizon. It is, therefore, the real altitude of the heavenly body, or that it would have if the observer were situated at the centre of the earth, and there was no refraction. When the sun or moon is observed, the altitude must be corrected for the semi-diameter.—For the principles and methods of making these corrections, see **CHAP. II.**, and the respective words in this Chapter.

Meridian Altitude is the arc of the meridian comprised between the horizon and the centre of the heavenly body, at the moment of its passage over that circle. This affords the most simple means of finding the latitude of the place of observation.

Polar Altitude, or *Altitude of the Pole*, is the arc of the meridian, intercepted between the horizon and the pole; and is always equal to the latitude of the place. The general method of ascertaining this, is to observe the altitude of a circumpolar star at its greatest and least elevations; and then half the sum of the *true* altitudes will be the required altitude of the pole. This method is susceptible of great accuracy, as numerous observations may be made on

different stars, and the height of the pole deduced from the mean of the whole.

Altitude, in geography, is often used in a different sense from any of the preceding; and is employed to denote the *perpendicular* height of any object; as the altitude of a mountain is its height above a given level, generally that of the sea. See the word **BAROMETER**, for the method of ascertaining these altitudes.

AMPHISCIONS is a name given by some geographers to the inhabitants of the torrid zone, because their shadows at noon are sometimes directed to one pole, and sometimes to the other. An inhabitant at the equator, for instance, has his shadow at mid-day directed to the north pole, when the sun's declination is south, and to the south pole when it is north. In any other latitude within the torrid zone, the shadow will be directed to the pole of that hemisphere in which the person is situated, whenever the declination and the latitude of the place are either of different denominations, or of the same name, but the declination *less* than the latitude; and it will point to the pole of the opposite hemisphere, when the declination and the latitude have the same name, and the declination is *greater* than the latitude.

AMPLITUDE is an arc of the horizon comprised between the east or west point, and the centre of a heavenly body at the moment of its rising or setting. Thus, if the sun be observed to rise on the East-South-East point of the compass, his amplitude would be 22° 30' from the east towards the south; and when he sets on the West-by-North point, his amplitude is 11° 15' from the west towards the north. The amplitude is also readily found by calculation; for astronomers prove, that the relation between the latitude of the place, the declination, and the amplitude, is expressed by the following formula:

$$\text{Sine of the Amplitude} = \frac{\text{Sin. D.}}{\text{Cos. L.}}$$

where *D* is the declination, and *L* the latitude of the place of observation.

ANGLE OF POSITION between two places on the earth's surface is the angle formed at one of these places by the meridian of that place and a great circle of the globe passing through them both. It is therefore measured by an arc of the rational horizon of the place for which it is estimated. Thus the angle of position between London and Port Royal, in Jamaica, is about 90° from the north towards the west; the great circle supposed to pass through both places being nearly at right angles to the meridian of London. The angle between Philadelphia and Madrid is about 65° from the north towards the east.

ANTARCTIC is a term frequently applied to the *uth* pole, to the regions which encompass it, and to the circle by which they are supposed to be bounded, at the distance of $23^\circ 28'$ from that pole. This is called the *Antarctic Circle*, in opposition to the *Arctic Circle*.

ANTIPODES is an appellation applied to those inhabitants of the terrestrial globe who live diametrically opposite to each other. It is derived from the circumstance of their being, from their respective situations, opposed feet to feet. The force of gravity, by which all things are retained on the earth's surface, always acts in lines directed towards the centre, or rather perpendicular to its surface. From the *direction* of this force, we derive our ideas of upwards and downwards, the former being opposed to its tendency, and the latter coinciding with it. Hence, our ideas of the inhabitants of distant regions being differently situated in this respect from ourselves, originates merely in our own limited views of the subject.

As the Antipodes are every way 180° distant from each other; they have equal latitudes, the one north and the other south. They have also the same seasons and length of day and night, but all these at contrary times, it being day with the one, while it is night with the other; the same for summer and winter. They have likewise the same rational horizon, but they view it in opposite directions, and therefore when the sun rises to the one, he sets to the other. The Antipodes of London is near the southern extremity of New Zealand.

ANTÆCIANS, people who live on the same meridian and equally distant from the equator, but the one north and the other south of it. Being situated on the same meridian, they have noon at the same time; but their seasons are opposite. The length of the

day in the one place is also equal to the length of the night at the other.

APHELION is that point in the orbit of a planet which is furthest from the sun. In the orbit of the earth for instance, the aphelion is at *A*, *fig. 4*.

The greatest distance, and the longest day, therefore, take place at the same time.

APOGEE is that point in a planetary orbit which is nearest the earth. This also applies to a satellite, for the moon has her apogee and perigee as well as the planets.

AQUARIUS (♒) the *Water-pourer*, one of the twelve signs of the zodiac, through which the sun appears to pass, between the 20th of January and the 19th of February.

ARCHIPELAGO is a term applied to any part of the sea containing numerous islands; but particularly to that arm of the Mediterranean situated between the coast of Asia Minor and European Turkey. This was called the *Ægean Sea* by the ancients; and by the Turks is denominated "*Adalat Denhisi*," the sea of Islands.

ARCTIC is a term applied, in opposition to *Antarctic*, to the *north* pole, the regions which surround it, and the circle by which they are bounded.

ARIES (♈) the *Ram*, one of the twelve signs of the zodiac, which the sun enters on the 21st of March, when spring commences. It is at this point where the ecliptic crosses the equator, and the sun passes from the southern to the northern hemisphere, or changes his declination from south to north. It is also from this point that astronomers commence their reckonings of time, right ascension, and celestial longitude.

ASCENSION, Right, is that degree of the celestial equator, which comes to the meridian with the sun, moon, or star, reckoning from the first point of Aries.

Ascension, Oblique, is an arc of the celestial equator or equinoctial, comprised between the first point of Aries and that which rises with the sun or a star.

Ascensional Difference, is the difference between the right and oblique ascensions of any point in the heavens; or it is the time which any of the planets rises before, or sets after, the sixth hour from their passing the meridian.

ATLAS implies a collection of Maps.

ATMOSPHERE, that invisible fluid which surrounds the terraqueous globe, and participates in all its motions. For the principal properties of the atmosphere, as they relate to physical geography, see *CHAP. III*.

ATTRACTION is a general term employed to denote

that power by which bodies either approach, or having a tendency to approach, each other, without any apparent impulse, or other cause, to which the motion or tendency can be ascribed. This power assumes different names according to the modifying circumstances under which it is considered. The properties chiefly connected with this subject, will be explained under the words GRAVITATION and GRAVITY.

AVANCHES, are vast masses of snow and ice, which are disengaged from the summits and sides of high mountains, and roll with immense impetuosity into the valleys below; frequently destroying every thing in their progress.

Axis, of the Earth, or of a Planet, is that diameter which passes through the poles, and about which the body performs its diurnal revolutions.

Axis, Optic, in the doctrine of *projection*, is the line, or visual ray, supposed to be drawn from the eye of the spectator perpendicular to the plane of projection.

AZIMUTH is an arc of the horizon, comprised between the point where that circle is intersected by the meridian of any place, and the vertical circle passing through any of the heavenly bodies. It is also the angle formed at the zenith of the observer, by the intersection of these two circles. The azimuth is, therefore, reckoned from the north or south points of the horizon, and is the complement of the amplitude; hence, when either is known, the other is found by subtracting that from 90 degrees. But the azimuth may be readily calculated, independently of the amplitude, by the following formula; where a is the azimuth, L the latitude of the place, A the altitude, and D the polar distance of the body; then

$$\text{Cos. } \frac{1}{2} a = \left(\frac{\text{Cos. } \frac{1}{2} (D + L + A) \text{ Cos. } \frac{1}{2} (A + L - D)}{\text{Cos. } L \text{ Cos. } A} \right)^{\frac{1}{2}}$$

If it were required to find the sun's true azimuth at 6 h A M on the 7th day of June, 1811, in latitude 26 degrees 30' N. and longitude 29° 15'E; when the altitude of the sun's lower limb was observed to be 24° 11', and the height of the observer's eye 16 feet, we should find $\frac{1}{2} a = 38^{\circ} 5'$. Therefore, $76^{\circ} 10'$, from the north towards the east, is the azimuth required.

Azimuth Circles, sometimes called *Vertical circles*, are great circles of the sphere intersecting each other in the zenith and nadir, and cutting the horizon at right angles. These are the circles on which the altitudes of the heavenly bodies, when not on the meridian, are estimated.

B.

BAROMETER is an instrument for measuring the weight or pressure of the atmosphere. On this principle it has also been used with great success in determining the altitudes of mountains, or other heights, by means of the different pressures of the air. We cannot here describe its construction; but the general principle upon which it acts is this; a glass tube, solid at one end, is *filled* with mercury, and then inverted into a cup of the same metal. The mercury in the tube sinks and leaves a vacuum above it, till the weight of that which remains in the tube is equal to the pressure of the atmosphere on the surface of the mercury in the cup. Hence, as this atmospheric pressure varies, the corresponding mercury in the tube rises or falls. The mean height of the mercurial column at the level of the sea is about 29.9, or nearly 30 inches.

From the nature and constitution of the atmosphere, the higher we ascend the less is the pressure. The Barometer is employed to ascertain the difference, and various rules and formulæ have been investigated for ascertaining the relation between this difference and the difference of the altitudes where the observations are made. One of the most recent of these formulæ has been investigated by M. *Biot*, from the results of many careful experiments on the relative densities of air and mercury, made by him and M. *Arago*. His formula reduced to English feet is,

$$60.316(1 + .002837 \text{ Cos. } 2\phi) \left(1 + \frac{2(T+t)}{1000}\right) \log. \frac{H}{h};$$

where ϕ denotes the latitude of the place, T and t the temperatures of the air at the two stations, as indicated by the centesimal thermometer, and H and h the heights of the mercurial columns corrected for the effects of heat.

Physical science has not yet attained that perfection in its application to barometrical measurements, which makes great refinement in formulæ of this kind to be implicitly relied upon. By neglecting some of these minutiae, Mr. *Leslie* has, in the article *Barometrical Measurements*, in the *Supplement to the Encyclopædia Britannica*, given a simple approximating rule for performing these calculations. He observes, "The whole operation may be reduced to a short and easy process. But the simplicity of the calculation would be still greater, if the centesimal thermometer were generally adopted. It will be

sufficiently accurate, till better data be obtained, to assume the expansion of mercury by heat, as equal to the 5000th part of its bulk for every centesimal degree, while that of air is twenty times greater, being an expansion for each degree of the 250th part of the bulk of this fluid.

1. *Correct the length of the mercurial column at the upper station, adding to it the product of its multiplication into twice the difference between the degrees on the attached thermometers, the decimal point being shifted four places to the left.*

2. *Subtract the logarithm of this corrected length from that of the lower column, multiply by six, and move the decimal point four places to the right; the result is the approximate elevation expressed in English feet.*

3. *Correct this approximate elevation, by shifting the decimal point three places back to the right, and multiplying by twice the sum of the degrees on the detached thermometers; this product being now added, will give the true elevation."*

If the observations be made with Fahrenheit's thermometer, they may easily be converted to the centesimal scale by taking five-ninths of the observed altitude for the height required.

To show the application of this rule, we shall take the observations made by M. Humboldt, on Chimborazo, the most elevated summit of the Andes. At the highest point this celebrated traveller was able to reach, the barometer fell to 14.85 English inches; the attached thermometer, in the tent, standing at the same time at 10°, and the detached one, in the open air, at 1° 6' below Zero. The same barometer on the sphere of the Pacific Ocean rose to 30 inches, and both the thermometers stood at 25° 3'. Hence the correction, to be applied to the column at the upper station, is $.0015 \times 30.6 = .045$.

Then, $\text{Log } 30.000 = 1.4771213$

$\text{Log } 14.895 = 1.1730405$

—————
Difference 0.3040808

Constant multiplier 60000

Approximate elevation 18244.848

The difference of the detached thermometers is 26° 9', which being multiplied by 2 and increased by 5° 8', the fifth part of the mean temperature at the equator, gives 59° 6'. The final correction is therefore $18244.848 \times 59.6 = 1087.393$, which being added to the former result gives a little more than 19,332 feet

for the height of the highest station above the level of the Pacific Ocean. As this was 2140 feet below the summit, the whole height of the mountain, according to this computation, is 21,472 feet. The height of the same mountain, calculated by Biot's formula is 21,421 feet.

BASIN is a term, now frequently employed by writers on Physical Geography to denote those lower tracts of the earth's surface which are watered by large rivers, and into which the waters of the adjacent districts descend. Thus the basin of the Thames embraces not only all the immediate district through which that river flows, but all the tract which is watered by the collateral streams. The same may be said of the Seine, &c.

BAY is an arm or portion of the sea extending into the land; as the Bay of Biscay, on the south-west of Europe, and the Bay of Bengal, on the south of Asia.

BEARING, in Geography, is the relative position of one place with respect to another, in reference to the points of the Compass. Thus a place is said to bear south-east from another, when the one is considered as the centre of the compass, and the direction of the other passes through the south-east point. Bearings are, either taken by observation, or calculated by the principles of Trigonometry.

C.

CANCER ($\text{\textcircled{S}}$) the *Crab*, is one of the twelve signs of the Zodiac, which the sun enters on the 22d of June; when he attains his greatest northern declination. This is the summer solstice, when the days are the longest and the nights the shortest, in this hemisphere.

CAPE, is the termination of a promontory, or portion of land projecting into the sea, or a lake; as the Cape of Good Hope, at the southern extremity of Africa; Cape Horn, at the southern point of Terra del Fuego, or Cape St. Vincent, at the south-west extremity of Portugal.

CAPRICORN ($\text{\textcircled{V}}$) the *Goat*, is that sign of the Zodiac which the sun enters on the 22d of December, when winter commences.

CARDINAL POINTS of the Compass, are the east, west, north, and south, points of the horizon. These consequently divide the horizon into four equal parts or quadrants, of eight points, or 90 degrees, each.

Cardinal Points of the Ecliptic, are the first points of the signs Aries, Cancer, Libra, and Capricorn,

which the sun occupies at the commencement of spring, summer, autumn, and winter.

CENTRIFUGAL FORCE is that tendency which any body revolving about a centre has to recede from that point, and by which it would fly off, if not restrained by some counteracting power.

CENTRIPETAL FORCE is that force by which revolving bodies are drawn towards a centre, and by which they are prevented from receding from the point about which they move.

It is by the combined action of these two forces that bodies revolve in curvilinear orbits; and hence it is by the equilibrium which Infinite Wisdom has established between them, that the harmony and perpetuity of the celestial motions are insured.

CHANNEL is the bed of a river. It is also applied to an arm of the sea, as the Bristol Channel; or to a strait which separates two countries, as the English Channel, between France and England, and the Irish Channel, between England and Ireland.

CHART is a representation of the whole, or part of the earth's surface on a plane. The word is generally employed to denote maps of particular parts of the ocean, with the surrounding coasts, capes, bays, headlands, &c. The shoals, banks, and soundings, with the bearings of the several points of the compass, are generally marked on them.

Plain Charts are those which have the meridians and parallels of latitude straight and equidistant lines. The degrees of longitude and latitude are every where equal to those on the equator; and consequently these charts do not afford a correct representation of any extensive surface.

Mercator's Chart, like the plane chart, has the meridians and parallels of latitude represented by right lines. All the degrees of longitude are equal to those at the equator, and therefore exceed the real lengths more and more as they approach the poles; and the degrees of latitude are also increased in the same proportion. The parts in the higher latitudes are consequently enlarged, and the representation too incorrect for any but nautical purposes of a comparatively small extent.

Globular Chart is a projection or representation of the earth's surface, which derives its name from the resemblance which the several parts of this chart have to the surface of the globe itself. See the article **MAPS**, and the principles of their construction, in **CHAP. II.**

CHRONOMETER is a watch of a superior construc-

tion, used by travellers and navigators for ascertaining longitudes, and particularly of places not very distant from each other.

Circles of the Sphere, are such as are supposed to be described either on the surface of the earth, or on the apparent concave sphere of the heavens. They are generally divided into two classes, great and small; the former dividing the surface into two equal, and the latter into two unequal, parts. The great circles are the meridians, equator, ecliptic, and horizon: The small circles are the parallels of latitude, &c.

Circles, Polar, are the two circles which encompass the polar regions, and are $23\frac{1}{2}$ degrees from the poles. They are the same as the *Arctic* and *Antarctic* circles.

Circles of Latitude are those which are parallel to the equator, and which are therefore supposed to be described through such places on the earth's surface as have equal latitudes.

Circle of Illumination is that variable circle which separates the enlightened from the dark hemisphere. It is consequently that which divides day from night.

CLIMATE is a term which is used both in an astronomical and physical sense. As it is of frequent occurrence in geography, we shall present a brief explanation of the term, as used in the first sense; with respect to the latter, we have entered so fully into the subject in **CHAP. III.** of this Introduction, that it is unnecessary to add any thing here. The tables and some other remarks which relate to the subject, will be inserted, with more propriety, under some of the subsequent terms; particularly **CONGELATION** and **TEMPERATURE**.

Climate, Astronomical, according to Ptolemy and other ancient writers, was used to denote a space or zone on the earth's surface, bounded by two parallels of latitude, and of such a breadth, that the length of the longest days differed by half an hour. The greater or less obliquity of the solar rays, according to distance from the equator, causes the breadths of these climates to be very unequal. There are twenty-four from the equator to the polar circles, and six from these to the poles. The last, however, do not increase the length of the longest days by half hours, but by months. The great astronomical geographer, *Ptolemy*, who first made use of these parallel zones, calculated them for an increase of a quarter of an hour each.

The breadths of the climates from the equator to the polar circles are readily found by an easy problem in spherical trigonometry: viz. add the Logarithmic cotangent of the sun's greatest declination to the Logarithmic sine of his ascensional difference, and the sum of these two logarithms is the Logarithmic tangent of the latitude of the circle nearest the pole. Thus,

$$\text{Cotan. of } 23^{\circ} 28' = 10.3623894$$

$$\text{Sine } 3^{\circ} 45' = 15' = 8.8155985$$

$$\text{Sum} = 9.1779879 = \text{tang. } 8^{\circ} 34'$$

for the latitude of the parallel where the first climate ends, and the second begins.

For the boundary of the Second Climate.

$$\text{Cotan. of } 23^{\circ} 28' = 10.3623894$$

$$\text{Sine of } 7^{\circ} 30' = 30' \text{ of time} = 9.1156977$$

$$\text{Sum} = 9.4780871 = \text{tangent}$$

of $16^{\circ} 44'$ for the latitude where the second climate ends, and the third begins.

Those between the polar circles and the poles, are still more easily found from the sun's declination. The following table contains the latitude where each climate ends, the length of the longest day at its termination, and its breadth in degrees and minutes.

From the Equator to the Polar Circles.

Climate.	End of Climate.	Length of Day.	Breadth of Climate.
No.	° ' "	Hours.	° ' "
1	8 34	12 $\frac{1}{2}$	8 34
2	16 44	13	8 10
3	24 12	13 $\frac{1}{2}$	7 28
4	30 48	14	6 36
5	36 31	14 $\frac{1}{2}$	5 43
6	41 24	15	4 53
7	45 32	15 $\frac{1}{2}$	4 08
8	49 02	16	3 30
9	51 59	16 $\frac{1}{2}$	2 57
10	54 30	17	2 31
11	56 38	17 $\frac{1}{2}$	2 08
12	58 27	18	1 49
13	59 59	18 $\frac{1}{2}$	1 32
14	61 18	19	1 19
15	62 26	19 $\frac{1}{2}$	1 08
16	63 22	20	0 56
17	64 10	20 $\frac{1}{2}$	0 48
18	64 50	21	0 40
19	65 22	21 $\frac{1}{2}$	0 32
20	65 48	22	0 26
21	66 05	22 $\frac{1}{2}$	0 17
22	66 21	23	0 14
23	66 29	23 $\frac{1}{2}$	0 8
24	66 32	24	0 3

From the Polar Circles to the Poles.

Climate.	End of Climate.	Length of Day.	Breadth of Climate.
	° ' "	Days.	° ' "
1	67 18	30	0 46
2	69 33	60	2 15
3	73 05	90	3 32
4	77 40	120	4 35
5	82 59	150	5 19
6	90 00	180	7 01

COLONY is a term denoting a body of people drawn from the mother country to inhabit some distant region, and either living under the government of the parent state, or having one of their own. In both these senses it has frequently been employed. Most of the colonies of modern Europe, have been of the former kind. The Grecian colonies were of the latter. The present application of the term, however, often implies a distant territory, rather than the people by whom it is inhabited. The colony of the Cape of Good Hope, and several others, are examples.

COLURES, are the two meridians passing through the solstitial points, Cancer and Capricorn, and the equinoctial points, Aries and Libra. By thus dividing the ecliptic into four equal parts, they mark the four seasons of the year. From the circumstance of their passing through these four points of the ecliptic, they are frequently called the *equinoctial* and *solstitial* colures.

COMPASS, or *Mariner's Compass*, is an instrument employed at sea, for ascertaining the course of vessels, and on land for determining the bearings of terrestrial objects. It consists of a small brass box, containing a card divided into thirty-two points, or equal parts, and a magnetic needle, which always points towards the north, except as affected by the variation, which is different for different places and different times. See VARIATION. The same instrument, with the circumference of the card divided into degrees, and some slight variation in the fitting up, is used for ascertaining the Amplitude and Azimuths of the heavenly bodies.

As the whole circle is divided into thirty-two equal parts, each point will, therefore, be equal to $11^{\circ} 15'$; each half point $5^{\circ} 37' 30''$, and each quarter point $2^{\circ} 48' 45''$. The following table exhibits, at one view, all the divisions of the compass and their respective appellations.

TABLE

Of the degrees, minutes, and seconds, which every point and quarter point of the Compass makes with the Meridian.

North.		degrees	0	1	2	3	4	5	6	7	8	9	South.	
		0	1	2	3	4	5	6	7	8	9	0	1	
		0	2	3	4	5	6	7	8	9	0	1	2	
		0	3	4	5	6	7	8	9	0	1	2	3	
N. b E.	N. b W.	1	0	11	15	0	1	0					S. b E.	S. b W.
		1	1	14	3	45	1	1						
		1	2	16	52	30	1	2						
		1	3	19	41	15	1	3						
N. N. E.	N. N. W.	2	0	22	30	0	2	0					S. S. E.	S. S. W.
		2	1	25	18	45	2	1						
		2	2	28	7	30	2	2						
		2	3	30	56	15	2	3						
N. E. b N.	N. W. b N.	3	0	33	15	0	3	0					S. E. b S.	S. W. b S.
		3	1	36	33	45	3	1						
		3	2	39	22	30	3	2						
		3	3	42	11	15	3	3						
N. E.	N. W.	4	0	45	0	0	4	0					S. E.	S. W.
		4	1	47	48	15	4	1						
		4	2	50	37	30	4	2						
		4	3	53	26	15	4	3						
N. E. b E.	N. W. b W.	5	0	56	15	0	5	0					S. E. b E.	S. W. b W.
		5	1	59	3	45	5	1						
		5	2	60	52	30	5	2						
		5	3	64	41	15	5	3						
E. N. E.	W. N. W.	6	0	67	30	0	6	0					E. S. E.	W. S. W.
		6	1	70	18	45	6	1						
		6	2	73	7	30	6	2						
		6	3	75	56	15	6	3						
E. b N.	W. b N.	7	0	78	45	0	7	0					E. b S.	W. b S.
		7	1	81	33	45	7	1						
		7	2	84	22	30	7	2						
		7	3	87	11	15	7	3						
East.	West.	8	0	90	0	0	8	0					East.	West.

CONGELATION is a term by which Natural Philosophers denote the act of freezing in the upper regions of the atmosphere. It is generally employed in reference to the elevation at which perpetual frost takes place, which is greatest at the equator, and diminishes on approaching the poles; thus forming a curve in the atmosphere, by the properties of which the height may be found for any given latitude. The following formula for accomplishing this, and the tables calculated from it, are extracted from the Supplement to the Encyclopædia Britannica, Article CLIMATE.—It is not to be supposed that under circumstances so multifarious as those which present themselves on the different parts of the globe, exceptions to its strict application should not occur. The most striking anomaly of this kind yet discovered, has been stated at page cxxxiii of this Introduction.

“Since in ascending from the surface, the temperature constantly diminishes, there must, in every latitude, exist a certain limit of elevation at which

the air will attain the term of Congelation. The mountains, likewise, which rear their heads above that boundary, are covered with eternal snow. In the higher regions of the atmosphere, especially within the tropics, the temperature varies but little throughout the whole year. Hence, in those brilliant climates, the line of perpetual congelation is strongly and distinctly marked. But, in countries more remote from the equator, the boundary of frost rises after the heat of summer, as the influence of winter prevails,—thus varying its position over a belt of considerable breadth.

“The height of the limit of perpetual congelation for any latitude, is easily determined from the principles already established. Let t denote the mean temperature in centesimal degrees at the surface of the ocean, and x the density of the upper atmosphere at the line where the reign of frost begins. It is evident from the formula (given in a previous part of the article), that,

$$25\left(\frac{1}{x}-1\right)=t;$$

whence $x + .041x = 1$, and this quadratic equation being solved, gives,

$$x = \sqrt{1 + .00017t} - .02t.$$

“From the density of the air thus found, the corresponding altitude is obtained by the application of logarithms, as in the barometrical measurements.

Hence the following table is computed.

Latitude	Height of Curve of Congelation, English feet.	Latitude	Height of Curve of Congelation, English feet.	Latitude	Height of Curve of Congelation, English feet.
0°	15207	31°	11253	61°	3350
1	15203	32	11019	62	3305
2	15189	33	10778	63	3245
3	15167	34	10534	64	3170
4	15135	35	10287	65	2722
5	15095	36	10036	66	2520
6	15047	37	9781	67	2325
7	14999	38	9523	68	2136
8	14925	39	9263	69	1953
9	14848	40	9001	70	1778
10	14764	41	8738	71	1611
11	14672	42	8473	72	1451
12	14571	43	8206	73	1298
13	14463	44	7939	74	1153
14	14345	45	7671	75	1016
15	14220	46	7402	76	887
16	14087	47	7133	77	767
17	13947	48	6865	78	656
18	13798	49	6599	79	552
19	13642	50	6334	80	457
20	13478	51	6070	81	371
21	13308	52	5808	82	294
22	13131	53	5548	83	226
23	12946	54	5290	84	167
24	12755	55	5034	85	117
25	12557	56	4782	86	76
26	12355	57	4534	87	44
27	12145	58	4291	88	20
28	11930	59	4052	89	05
29	11710	60	3818	90	00
30	11484				

"This table, though calculated from theoretical data, will be found to coincide with actual observation."

CONJUNCTION is the relative situation of any two of the heavenly bodies, as seen from the sun or the earth, when they appear in the same point of the heavens, or answer to the same degree of the ecliptic. Thus, when the moon is in the right line, supposed to join the sun and the earth, the sun and moon are said to be in conjunction as seen from the earth; and the moon and the earth in conjunction as seen from the sun.

CONTINENT is a large track of land, containing several contiguous countries, without any separation of its parts by the intervention of water. In this sense, there are only two continents, which, in reference to the situation of this country, may be denominated eastern and western, but in reference to our knowledge of them, they are frequently called the *Old* and *New Worlds*. The former has, for the sake of perspicuity, been divided by geographers, into the Continents of Europe, Asia, and Africa; the latter comprehends the extensive regions of North and South America.

CRATER is the opening in a volcanic mountain, from which the smoke and ignited matter issue.

CREPUSCULUM. See *Twilight*.

CULMINATING implies the passage of a heavenly body over the meridian of the place of observation.

CURRENT is a body of water in motion, either on land or in the ocean. In this latter case, the water of the current is distinguished by having a different motion from the adjacent parts of the sea. For the principal Currents, see **CHAP. III.**

D.

DAY, in its general and natural sense, is the portion of time in which the earth performs one revolution about its axis.

Day, Civil, is the time between the sun's rising and setting, or rather between the beginning of morning and the termination of evening, twilight. In this sense, it is opposed to night. Its length, therefore, varies with the season. For the method of calculating its duration for any given time, see **DIURNAL ARCS**. It also signifies the whole period of 24 hours, and then it always commences at midnight.

Day, Astronomical, is the period between two consecutive transits of the sun's centre over the

meridian: and consequently always commences at noon, or mid-day. *Siderial Day* is also a period of 24 hours, determined by two consecutive passages of the same star over the meridian; and may, therefore, commence at any time of either day or night.

DECLINATION of the sun, moon, or stars, is their distance north or south from the equator, reckoned in degrees and minutes, on an arc perpendicular to that circle, and passing through the centre of the heavenly body. The declination of the sun is easily found by a simple stating in spherical trigonometry; which is, as *radius* is to the *sign of the sun's longitude*, so is the *sign of the obliquity of the ecliptic* to the *declination required*. If it were, therefore, required to find the declination of the sun on the 1st of May, 1819, when his longitude was $40^{\circ} 14' 48''$, and the obliquity of the ecliptic $23^{\circ} 27' 28''$, by using logarithms, we should have,

As Radius	10.0000000
Is to the sin. $40^{\circ} 14' 48''$	9.8102860
So is the sin. $23^{\circ} 27' 28''$	9.6001084

To the sine of the declination $14^{\circ} 54' 30'' = 9.4103844$

The declination of any heavenly bodies, of the stars for instance, may also be found in the following manner. Take the meridian altitude of the star at any place where the latitude is known; and the complement of this will be the zenith distance, which is north or south, as the star is north or south of the observer at the time of observation. Then when the latitude of the place, and the zenith distance of the star, are one north and the other south, their difference is the declination; which is of the same name with the latitude, when that is greater than the zenith distance, but of the contrary name when it is less. When the latitude and the zenith distance are either both north or both south, their sum will be the declination; which is necessarily of the same kind with the latitude.

Declination of the Magnetic Needle is the angle which the magnetic meridian makes with the true meridian of the place of observation, measured in degrees and minutes, on an arc of the horizon. This declination varies with both time and place. With respect to the variation of the first kind, the Needle seems to oscillate about the true north. The declination at London was nothing about 150 years ago, and has now increased to about 24 degrees west, which is thought to be nearly its maximum. The other variation has been supposed to be caused by the magnetic pole being different from that of the terres-

trial globe; in consequence of which, any change of place produced a change in the variation.

DEGREE is the 360th part of a circle, or the 30th part of a sign. Each degree is divided into 60 equal parts or minutes; and each minute into 60 seconds. In these terms all angles are estimated. Degrees and minutes are only relative measures, as whatever may be the magnitude of the circle, the number of divisions is the same, and consequently the parts themselves are greater or less according to circumstances.

Degree of Latitude is that part of a meridian included between two points at which the difference in the elevation of any of the heavenly bodies at the same instant is equal to the 360th part of a circle. If the terrestrial meridians were perfect circles, this would also be the 360th part of the meridian. But as various circumstances show that this is not the case, the lengths of these arcs, which correspond to a degree in the altitude of the celestial bodies, are not precisely equal. Having explained in CHAP. II. the principles upon which the length of these arcs are determined, we shall here only present the chief measures in a tabular form.

TABLE

Showing the lengths of the degree, the date of its measurement, the latitude of its middle point, the country in which the measures were taken, and the measurers' names.

Date.	Latitude.	Countries.	Extent in Eng. miles and Decim.	Measures.
1525	49 20' N	France	68.763	M. Fennel
1620	52 4	Holland	66.91	Snellius
1635	53 15	England	69.545	Norwood
1644		Italy	75.066	Riccioli
1669	49 22	France	68.945	Picard
1718.			69.119	Cassini
1737	66 20	Lapland	69.403	Maupertuis, &c.
1740	49 22	France	69.121	Cassini and
	45 0		69.092	La Caille
			68.751	Juan and Ulloa
1744	0 0	Peru	68.732	Bouguer
			68.713	Condamine
			69.076	La Caille
1752	33 18.48	C. of G. Hope	69.998	Roscovich
1755	43 0 N	Italy	69.061	Beccaria
1761	44 44		69.142	Leisganig
1766	47 40	Germany	68.893	Mason and Dixon
1770	39 12	Pennsylvania	69.146	Col. Mudge
1802	51 29.9	England	69.292	Swanberg, &c.
1805	60 20.4	Lapland	68.743	Maj. Lampton
	12 32	India	68.769	Biot and Arago.
1808	44 52	France		

For other lengths, see page lii.

The following is the length of a degree of the meridian corresponding to every 3d degree of latitude from the equator to the pole, when the earth is considered as a spheroid, and the compression equal to $\frac{1}{230}$ th of the axis.

Lat.	Length of Degree in Eng. miles.	Lat.	Length of Degree in Eng. miles.
0	68.704	48	69.071
3	68.705	51	69.105
6	68.711	54	69.138
9	68.720	57	69.171
12	68.732	60	69.202
15	68.748	63	69.232
18	68.767	66	69.259
21	68.789	69	69.283
24	68.814	72	69.305
27	68.841	75	69.324
30	68.870	78	69.338
33	68.900	81	69.352
36	68.933	84	69.361
39	68.967	87	69.366
42	69.002	90	69.368
45	69.036		

Degree of Longitude is the space between two meridians that make an angle of one degree with each other at the pole. The degrees of longitude, at different latitudes, are therefore unequal, and correspond to those of latitudes only at the equator. As the meridians approach each other till they meet at the poles, the degrees of longitude continually decrease until they become nothing at these points; hence, a degree of longitude in any latitude is less than a degree on the equator. Now, as these degrees are measured on the parallels of latitude, they have the same ratio to each other as the radii of the circles, that is, as the *cosines* of the latitudes. Their computation, in consequence, becomes very easy; for if a degree of the equator be taken as the standard of comparison, we shall have the *radius to the cosine of latitude, as the length of the equatorial degree is to that of the longitude*. On this principle the following table is calculated, considering the earth as spherical, which is sufficiently correct for all geographical purposes.

TABLE

Showing the length of a degree of longitude corresponding to every degree of latitude, in geographical and English miles and decimals.

Deg. Lat.	Deg. Long. Geo. miles.	Deg. Long. Eng. miles.	Deg. Lat.	Deg. Long. Geo. miles.	Deg. Long. Eng. miles.
0	60.00	69.20	9	59.26	68.35
1	59.99	69.19	10	59.09	68.15
2	59.96	69.16	11	58.89	67.93
3	59.92	69.11	12	58.69	67.69
4	59.85	69.03	13	58.46	67.43
5	59.77	68.94	14	58.22	67.14
6	59.67	68.82	15	57.95	66.84
7	59.55	68.69	16	57.67	66.52
8	59.42	68.53	17	57.38	66.18

Deg. Lat.	Deg. Long. Geo. miles.	Deg. Long. Eng. miles.	Deg. Lat.	Deg. Long. Geo. miles.	Deg. Long. Eng. miles.
18	57°06'	65°81'	55	34°41'	39°69'
19	56°73'	65°43'	56	33°55'	38°70'
20	56°38'	65°27'	57	32°68'	37°69'
21	56°01'	64°60'	58	31°79'	36°67'
22	55°63'	64°16'	59	30°90'	35°64'
23	55°23'	63°70'	60	30°00'	34°60'
24	54°81'	63°22'	61	29°09'	33°55'
25	54°38'	62°72'	62	28°17'	32°49'
26	53°93'	62°20'	63	27°24'	31°42'
27	53°46'	61°66'	64	26°30'	30°34'
28	52°97'	61°10'	65	25°36'	29°25'
29	52°48'	60°52'	66	24°40'	28°15'
30	51°96'	59°93'	67	23°45'	27°04'
31	51°43'	59°32'	68	22°45'	25°92'
32	50°88'	58°69'	69	21°51'	24°80'
33	50°32'	58°04'	70	20°52'	23°67'
34	49°74'	57°37'	71	19°53'	22°53'
35	49°15'	56°69'	72	18°54'	21°38'
36	48°54'	55°98'	73	17°54'	20°23'
37	47°92'	55°27'	74	16°54'	19°07'
38	47°28'	54°53'	75	15°53'	17°91'
39	46°63'	53°78'	76	14°52'	16°74'
40	45°96'	53°01'	77	13°50'	15°57'
41	45°28'	52°23'	78	12°48'	14°30'
42	44°59'	51°43'	79	11°45'	13°20'
43	43°88'	50°61'	80	10°42'	12°02'
44	43°16'	49°79'	81	9°38'	10°83'
45	42°43'	48°93'	82	8°35'	9°63'
46	41°68'	48°07'	83	7°31'	8°43'
47	40°92'	47°19'	84	6°27'	7°23'
48	40°15'	46°30'	85	5°22'	6°03'
49	39°36'	45°40'	86	4°18'	4°83'
50	38°57'	44°48'	87	3°14'	3°62'
51	37°76'	43°55'	88	2°09'	2°42'
52	36°94'	42°60'	89	1°05'	1°21'
53	36°11'	41°65'	90	0°00'	0°00'
54	35°27'	40°68'			

has given the following formula for the value of D , viz.

$$\tan. D = \left(\frac{1-r}{\sin. 45} \right) \cdot \left(\frac{H}{R} \right)^{\frac{1}{2}}$$

As the arc denoted by D is always small, it is very nearly equal to its tangent, and consequently D may be substituted for $\tan. D$, without any sensible error in the result. Adopting this transformation, and introducing the numeral values of the other letters, the preceding formula becomes $D = 58'' \cdot 79511^a$; which is easily computed, and gives the following simple Rule.

Multiply the square root of the height of the eye in feet by 58·795, and the product will be the Depression in seconds.—If $H = 18$ feet, $58 \cdot 795 \sqrt{18} = 249'' = 4' 9''$; and if the height of the eye be 25 feet, $58 \cdot 795 \sqrt{25} = 294'' = 4' 54''$, the depression in each case respectively. The following Table, shows the depression for various heights of the eye above the horizontal plane, and the distances that can be seen from these elevations.

TABLE

Height of the eye in feet.	Depression.	Distance seen in miles and decimals.	Height of the eye in feet.	Depression.	Distance seen in miles and decimals.
1	0 59	1·2	31	5 28	6·8
2	1 23	1·7	32	5 33	6·9
3	1 42	2·1	33	5 38	7·0
4	1 58	2·4	34	5 43	7·1
5	2 12	2·7	35	5 48	7·2
6	2 24	3·0	36	5 53	7·3
7	2 35	3·2	37	5 58	7·4
8	2 46	3·4	38	6 3	7·5
9	2 58	3·7	39	6 8	7·6
10	3 6	3·9	40	6 13	7·7
11	3 15	4·1	43	6 27	8·0
12	3 24	4·3	46	6 39	8·3
13	3 32	4·4	49	6 52	8·6
14	3 40	4·6	52	7 4	8·8
15	3 48	4·7	55	7 16	9·1
16	3 55	4·9	58	7 28	9·3
17	4 2	5·0	61	7 39	9·6
18	4 9	5·2	64	7 50	9·8
19	4 16	5·4	67	8 1	10·0
20	4 23	5·5	70	8 12	10·2
21	4 30	5·6	73	8 22	10·5
22	4 36	5·7	76	8 32	10·7
23	4 42	5·9	79	8 42	10·9
24	4 48	6·0	82	8 52	11·1
25	4 54	6·1	85	9 2	11·3
26	5 0	6·2	88	9 12	11·5
27	5 6	6·4	91	9 21	11·7
28	5 12	6·5	94	9 30	11·9
29	5 17	6·6	97	9 39	12·1
30	5 23	6·7	100	9 48	12·2

DELTA is a term now frequently applied to those triangular spaces of low land between the different mouths, or near the estuaries, of great rivers, which have been formed by the alluvial deposits of their waters. Thus the lower part of Egypt is usually called the Delta; a denomination which it first received from its resemblance to the Greek letter of that name.

DEPRESSION, or *Dip of the Horizon*, is the dipping or depression of the visual ray below the horizontal plane, occasioned by the height of the observer's eye above that plane. It is, therefore, necessary to subtract this quantity from the observed altitudes of the heavenly bodies. This depression may be easily computed. Let the Depression be denoted by D , the height of the eye by H , the mean horizontal refraction in terms of the arc AP , (*fig. 8*) equal $\cdot 07876$, by r , and the mean radius of the earth, equal to 20892710 English feet, or 206265'' of a great circle by R ; then *M. Delambre*, in his *Astronomie*,

Dip, of the Magnetic Needle is the angle which the needle makes with the horizon. This angle is found to vary at different places, and also at the same place at different times. M. Humboldt has given the following table of the Dip of the magnetic needle, and intensity of the Magnetic forces in the North Atlantic Ocean, in 1799.

N. Latitude.	W. Longitude.	Magnetic dip. Cent. division.	No. of Oscillations in 10 min.
38° 52'	16° 22'	75° 76'	242
37° 26'	16° 32'	75° 35'	242
34° 30'	16° 55'	73° 00'	234
31° 46'	17° 4'	71° 90'	237
28° 28'	18° 33'	69° 35'	238
24° 58'	20° 58'	67° 60'	239
21° 29'	25° 42'	64° 65'	237
19° 54'	28° 45'	63° 52'	236
14° 15'	48° 3'	56° 30'	239
13° 2'	53° 15'	50° 67'	234
11° 1'	54° 51'	47° 05'	237
10° 46'	60° 51'	46° 95'	229

Disc, or Disk, is the apparent surface of any of the heavenly bodies. These, being nearly spherical, appear, from their great distance, to be circular planes. the diameter of the disc is supposed to be divided into twelve equal parts, called digits; and the magnitude of an eclipse is estimated by the number of these it covers.

DISTANCE, in geography, is the arc of a great circle of the sphere passing through any two places. This is to be computed by spherical Trigonometry, at least when extensive; but when the distances are small, plane Trigonometry will answer the purpose. To works on this science, or to those on Geodesia, we must refer for the methods of computation.

The distance that can be seen with a given elevation above the earth's surface, is contained in the preceding Table, under the article **DEPRESSION**, and may be found as follows.

Let AO (fig. 14.) the radius of the earth, be denoted by r , AB the height of the eye, by h , and BP , the tangent from the point B , by t . Then, by geometry, $BP^2 = AB \cdot BD = AB(AB + AB_1)$ or $t^2 = h(h + 2r)$ and $t = h^{\frac{1}{2}}(h + 2r)^{\frac{1}{2}}$. But, as h , in all practical cases, is extremely small with respect to $2r$, $(h + 2r)^{\frac{1}{2}}$ may be regarded as a constant quantity, and therefore, the value of t will vary as $h^{\frac{1}{2}}$. But, in all small arcs the tangent is not sensibly different from the arc itself, and they may, therefore, be substituted the one for the other, without involving any material error. Hence, t may also represent AP , or the distance that can be seen from the point B .

This, consequently, varies as the square root of the height of the eye—Now, as it has been found that when the eye is six feet above the surface of the earth or sea, the distance that can be seen when the convexity of the earth is the only obstruction, is three miles, we have $\sqrt{6} : \sqrt{h} :: 3 : \frac{3\sqrt{h}}{\sqrt{6}} = \frac{1}{2}\sqrt{6h} = 1.2247\sqrt{h}$;

which is an expression, in miles, for the distance that can be seen, when h is in feet.—The rule, therefore, is—*Multiply the square root of the height of the eye in feet, by 1.2247, and the product will be the distance that can be seen in English miles.*

If the height of the eye be 50 feet, we should have $1.2247\sqrt{50} = 8.66$ miles nearly.

Again, if the distance from an object were known, and its height required, we should have $1.2247\sqrt{h} = d$; from which $h = \left(\frac{d}{1.2247}\right)^2 = .66672d^2$, or $\frac{1}{3}d^2$,

nearly. Hence, if the distance at which an object can be seen be 12 miles, its height will be 96 feet

DIURNAL ARC is that described by any of the heavenly bodies from its rising to its setting. It is consequently that upon which the length of the day depends. These arcs must evidently vary with the latitude of the place and the declination of the sun. When these are known it will be easy to find the duration of day and night, or the semi-diurnal arc of any given place.

If we suppose three visual rays to be drawn from the observer, one to his zenith, another to the body at the instant it appears on the horizon, and a third to the pole, they will form a spherical triangle, the three sides of which are known; viz. the distance from the pole to the zenith, which may be denoted by D ; the polar distance of the body; which may be represented by Δ ; and the zenith distance, Z , of the body, which is equal to $90 + \text{refraction} - \text{parallax}$. With these data the arc which subtends the angle formed by the vertical circle and the meridian may be calculated; and to facilitate this calculation, writers on spherical Trigonometry have investigated the following formula; viz.

$$\text{Sin. } \frac{1}{2}A = \left(\frac{\text{Sin. } \frac{1}{2}(Z + \Delta - D) \text{ Sin. } \frac{1}{2}(Z + D - \Delta)}{\text{Sin. } \Delta \text{ Sin. } D} \right)^{\frac{1}{2}}$$

The angle A being found by this formula, and reduced into time, gives the duration between the body's rising and passing the meridian, and is, therefore, called the *semi-diurnal arc*.

To exemplify the mode of computation, let it be required to find the semi-diurnal arc at London, on

the 22d of June, the latitude being nearly $51^{\circ} 31'$, we shall have $D=38^{\circ} 29'$; the sun's declination on that day is $23^{\circ} 28'$, and, therefore, his polar distance is $66^{\circ} 32'$, while his distance from the zenith is $90^{\circ} + 33' 16'' - 9'' = 90^{\circ} 33' 7''$; then by substituting these quantities, and reducing the expression, we have, $A=62^{\circ} 8' \times 2 = 124^{\circ} 16'$; which is the diurnal arc required. When converted into time, it gives 16h. $34\frac{1}{2}$ m. for the length of the longest day at London.

E.

ECLIPSE is a partial deprivation of light of any of the celestial bodies, by the interposition of some opaque object. This may take place either with respect to the source of this light, or the observer. In the one case the body passes between the sun and the eclipsed luminary, and prevents his light from falling upon it; in the other, the obstacle passes between the luminary and the observer, and precludes the light which is transmitted by the body, from reaching him. In each case, the effect is a partial obscuration of the illuminated body. Eclipses are closely connected with physical geography, by their use in determining the longitude of places. See LONGITUDE.

ECLIPTIC is that great circle of the sphere in which the sun appears to perform his annual revolution; or more properly it is the apparent path of the earth as seen from the sun. This circle is in the middle of the zodiac, and derives its name from the eclipses of the sun and moon happening when these bodies are either in, or very near it. The ecliptic makes an angle of about $23^{\circ} 28'$ with the equator. This angle, however, is not constant, but diminishes by about $50''$ in a century; and, like many of the other astronomical variations, is supposed to oscillate within certain limits. The motion, however, is so slow, that it requires a period for its completion much beyond the extent of correct observations. It is upon the ecliptic that the longitude of the stars and planets is reckoned, and the twelve celestial signs are marked, commencing at that point of its intersection with the equator, which is the beginning of *Aries*.

ELEVATION, generally speaking, is the height of any thing. But this term in astronomical geography includes different ideas. Two or three of the most important shall be explained.

Elevation of the Equator is the height of that circle above the horizon as measured by an arc of

the meridian intercepted between it and the horizon. The elevation of the equator, and that of the pole, are mutual complements. Hence, if either be found, and subtracted from 90 degrees, the remainder will be the other.

Elevation of the Pole is its height above the horizon, measured by an arc of a vertical circle, or meridian comprehended between the pole and the horizon. The elevation of the pole is always equal to the latitude of the place, or to the arc of the meridian comprised between the celestial equator and the zenith of the observer. The elevation of the north pole at London, is equal to $51^{\circ} 30' 49''$; which is the meridional distance of London from the terrestrial equator.

The same definition applies equally to the elevation of a star or any other celestial body. And the *angle of elevation* is that which a visual ray supposed to be drawn from the eye of the observer to the object makes with the horizon.

ELLIPTICITY, of the terrestrial spheroid, is the difference between the greatest and least radii; and is generally expressed in terms of the former; that is in parts of the equatorial radius. This quantity has been variously stated by different mathematicians, as well as derived from different principles. The following table shows the chief ellipticities, with the names of their authors and the bases upon which they are founded.

Authors.	Ellipticities.	Principles.
Huygens	$\frac{1}{230}$	} Theory of Gravity
Newton	$\frac{1}{230}$	
Maupertuis, &c	$\frac{1}{230}$	} Mensuration of arcs.
	$\frac{1}{230}$	
Swanberg	$\frac{1}{230}$	} Rotatory Motion
Col. Lampton	$\frac{1}{230}$	
Clairaut	$\frac{1}{230}$	} Vibration of the pendulum
Laplace	$\frac{1}{230}$	
Triesnecker	$\frac{1}{230}$	} Occult. of the fixed stars
Laplace	$\frac{1}{230}$	
	$\frac{1}{230}$	} Precession and Nutation
	$\frac{1}{230}$	
	$\frac{1}{230}$	} Theory of the moon.
	$\frac{1}{230}$	

EQUATION OF TIME is the difference between true and apparent time, or that which is shown by a well-regulated clock, and that indicated by a good sundial. This difference arises principally from the obliquity of the ecliptic, and the unequal motion of the earth in its orbit. From these causes, the apparent agrees with the true time only on four days in the year. These are about April 16th, June 16th,

September 1st, and December the 25th. The equation is greatest in the beginning of November, when it is nearly 16m. 16s. It is calculated for every day at noon, and given in the Nautical Almanac; and is sometimes to be added to, and at others subtracted from, the time as shown by a good sun-dial, to obtain the true time corresponding to the same instant. For example, if it were required to find the time on the 20th of November, 1819, when the dial indicated 15m. after 12; we should have,

	h.	m.	s.
Time by the dial	12	15	0
Equation of time .. (subtract)	0	14	17.7
True time	12	0	42.3

EQUATOR is the great circle of the sphere which is every where equally distant from the poles. It is thus supposed to divide the surface of the sphere into equal hemispheres, the one north, and the other south. The terrestrial equator is frequently called the line, by navigators. The celestial circle is also called the equinoctial. Geographers commence their reckoning of latitude at the equator. All places, therefore, that are situated on that circle have no latitude, and the days and nights are always of the same length. Longitude is also reckoned in degrees of the equator.

EQUINOCTIAL is a great circle of the heavens corresponding to the equator on the earth. It cuts the horizon of any place in the east and west points; and when the sun arrives at this circle it rises and sets in these points, and the days and nights are then equal all over the globe. It was from this circumstance that it obtained its name. Declination is reckoned north and south from it. The right ascension of the heavenly bodies is also reckoned on this circle, from the first point of Aries to 360 degrees.

EQUINOXES are the times when the sun enters the equinoctial points, or those where the ecliptic crosses the equator. This is about the 21st of March, and the 23d of September; the former being the *Vernal*, and the latter the *Autumnal* equinox. These points, as well as all others of the ecliptic have a retrograde motion towards the west; which constitutes the phenomena denominated the *precession of the equinoxes*, which is about $50^{\circ}\frac{1}{2}$ in a year.

ETEROSCIANS are the inhabitants of the temperate and frigid zones, whose shadows at noon are always directed towards the poles.

EVAPORATION, in Natural Philosophy and Physical Geography, is the conversion of water into vapour, which, by this process, is raised into the atmosphere; and by a subsequent, but partial, condensation, forms clouds. For the quantity of evaporation in different regions, see CHAP. III. Page cxxxix.

As a very considerable part of the earth's surface is covered with water, which is constantly evaporating and mixing with the atmosphere in the state of vapour, a precise determination of the rate of evaporation must be of very great importance in physical Geography. Accordingly, many experiments have been made by different philosophers to determine this point. No person has succeeded so completely as Mr. Dalton; but many curious particulars had been previously ascertained by the labours of Richman, Lambert, Watson, Saussure, De Luc, Kirwan, and others. From these we learn that evaporation is confined entirely to the surface of the water to which it is consequently proportional. Much more vapour, therefore, rises in maritime countries, or those interspersed with lakes, than in inland countries. More also rises during hot weather than cold: hence the quantity of evaporation depends upon the temperature. The precise law has been discovered by Mr. Dalton, who says, in general, that the quantity evaporated from a given surface of water per minute at any temperature, is to the quantity evaporated from the same surface at 212° , as the force of the vapour at the first temperature is to its force at the latter. Hence, to discover the quantity that will be lost by evaporation from water at a given temperature, we have only to ascertain the force of vapour at that temperature. But the quantity of vapour arising from water, even when the temperature is the same, varies according to circumstances. It is least in calm weather, and greatest with a strong wind. Mr. Dalton has given a table that shows the quantity raised from a circular surface of six inches in diameter, at different atmospheric temperatures. The first column expresses the temperature; the second the corresponding force of vapour; the other three columns give the number of grains of water that would be evaporated, at the respective temperatures, on the supposition of there being previously no aqueous vapour in the atmosphere. These columns present nearly the extremes and the mean of evaporation, for the first is calculated upon the supposition of 35 grains per minute from a vessel of $3\frac{1}{2}$ inches in dia-

meter; the second 45, and the third 55 grains per minute.

TABLE

Of the force and quantity of Evaporation at different temperatures.

Temperature. 210°	Force of vapour in inches 30	Evaporating force in grains.		
		120	154	189
20	·129	·52	·67	·82
21	·134	·54	·69	·85
22	·139	·56	·71	·88
23	·144	·58	·73	·91
24	·150	·60	·77	·94
25	·156	·62	·79	·97
26	·162	·65	·82	1·02
27	·168	·67	·86	1·05
28	·174	·70	·90	1·10
29	·180	·72	·93	1·13
30	·186	·74	·95	1·17
31	·193	·77	·99	1·21
32	·200	·80	1·03	1·26
33	·207	·83	1·07	1·30
34	·214	·86	1·11	1·35
35	·221	·89	1·14	1·39
36	·229	·92	1·18	1·45
37	·237	·95	1·22	1·49
38	·245	·98	1·26	1·54
39	·254	1·02	1·31	1·60
40	·263	1·05	1·35	1·65
41	·273	1·09	1·40	1·71
42	·283	1·12	1·45	1·76
43	·294	1·18	1·51	1·85
44	·305	1·22	1·57	1·92
45	·316	1·26	1·62	1·99
46	·327	1·31	1·68	2·06
47	·339	1·36	1·75	2·13
48	·351	1·40	1·80	2·20
49	·363	1·45	1·86	2·28
50	·375	1·50	1·92	2·36
51	·388	1·55	1·99	2·44
52	·401	1·60	2·06	2·51
53	·415	1·66	2·13	2·61
54	·429	1·71	2·20	2·69
55	·443	1·77	2·28	2·78
56	·458	1·83	2·35	2·88
57	·474	1·90	2·43	2·98
58	·490	1·96	2·52	3·08
59	·507	2·03	2·61	3·19
60	·524	2·10	2·70	3·30
61	·542	2·17	2·79	3·41
62	·560	2·24	2·88	3·52
63	·578	2·31	2·97	3·63
64	·597	2·39	3·07	3·76
65	·616	2·46	3·16	3·87
66	·635	2·54	3·27	3·99
67	·655	2·62	3·37	4·12
68	·676	2·70	3·47	4·24
69	·698	2·79	3·59	4·38
70	·721	2·88	3·70	4·53
71	·745	2·98	3·83	4·68
72	·770	3·03	3·96	4·84
73	·796	3·18	4·09	5·00
74	·823	3·9	4·23	5·17
75	·851	3·40	4·37	5·34
76	·880	3·52	4·52	5·53
77	·910	3·65	4·68	5·72
78	·940	3·76	4·83	5·91
79	·971	3·88	4·99	6·10
80	1·00	4·00	5·14	6·29
81	1·04	4·16	5·35	6·54
82	1·07	4·28	5·50	6·73
83	1·10	4·40	5·66	6·91
84	1·14	4·56	5·86	7·17
85	1·17	4·68	6·07	7·46

F.

FLUX and REFLEX are regular periodic motions of the sea. See **TIDES**.

Foci of an Ellipse are two points in its transverse axis, one on each side of the centre; and such, that right lines being drawn from them, to meet in any point of the periphery, their sum is always equal to the transverse axis. The orbit of the earth being an ellipse, and having the sun in one of the foci, makes the distance between these bodies vary at different periods of the earth's annual revolution. This renders the motion of the earth in its orbit unequal, and causes him to be longer by about eight days on the north, than on the south, side of the celestial equator.

FORCE is any power that either produces, or has a tendency to produce or destroy, motion. See *Centrifugal* and *Centripetal Force*.

G.

GEMINI, the *Twins*, is the third zodiacal sign, representing Castor and Pollux, and marked Π .

GEOCENTRIC is a term applied to the situation, motion, latitude, longitude, &c. of a planet, as seen from the earth.

GLACIERS is a name given to extensive fields of ice among the Alps. Some of them clothe the elevated vallies on these lofty regions, while others envelope the sides and summits of the mountains: the former are denominated *lower*, and the latter *upper* glaciers. The glaciers in general owe their existence to the partial melting of the snow that falls in those rugged and elevated regions. Those in the vallies consist chiefly of solid ice. On the summits of the mountains they are principally composed of snow, and on the sides of a mixture of both; being much firmer than the one, but less compact than the other. For their formation see **CHAPTER III**.

GNOMON is an instrument for ascertaining the altitude and declination of the heavenly bodies by means of their shadows. It generally consisted of an upright pillar or column, and sometimes of a pyramid; and was the first instrument used for finding the meridian altitude of the sun, by means of the proportion which the length of the shadow had to that of the instrument. This was first done by *Pytheas*, at Marseilles, about the time of Alexander the Great; when he found the height of the gnomon to the length of the shadow at the summer solstice, as $213\frac{1}{2}$ to 600; the same

ratio which Cassendi found at the same place nearly 2000 years afterwards. In drawing their conclusions from the use of this instrument, however, the ancients did not take either *Refraction* or *Parallax* into the account; and they supposed the shadow to be bounded by a ray coming from the centre of the sun instead of his upper limb.

GRAVITATION is the tendency which every particle of matter has to every other particle, at finite distances from each other. What is called gravitation with respect to the gravitating body, is called attraction, in reference to the body gravitated to. As all bodies, whatever may be their nature or magnitude, are only aggregated particles, gravitation takes place proportionally between them; and this power thus becomes the most universal agent of the material world. It is by it that bodies retain their forms; that the component parts of the earth, and the other planets, are not dissipated in the boundless regions of space; that terrestrial bodies, when unsupported descend to the earth, that the planets and their satellites are retained in their orbits; and that the solar system itself maintains its place in the universe.

All the phenomena of gravitation unite in proving that the law by which its intensity is regulated, is *directly* as the mass, and *reciprocally* as the square of the distance of the gravitating body. Hence arises the following proportions. Let *F* denote the gravitating force, *M* the mass or quantity of matter in any body, and *D* its distance; *f*, *m*, and *d*, the same things with respect to any other body; then we have,

$$F \text{ as } \frac{M}{D^2}, \text{ and } f \text{ as } \frac{m}{d^2};$$

and consequently

$$F : f :: \frac{M}{D^2} : \frac{m}{d^2}.$$

From this general proportion, the ratio of either the masses or the distances of bodies are easily found in terms of each other; for, by multiplying by D^2 and d^2 , we have,

$$M : m :: FD^2 : fd^2;$$

and again, by dividing the terms of this last proportion by *F* and *f*, and taking the square roots of the quotients, we shall have,

$$D : d :: \left(\frac{M}{F}\right)^{\frac{1}{2}} : \left(\frac{m}{f}\right)^{\frac{1}{2}}.$$

GRAVITY is that force by which all terrestrial bodies, when unsupported, are caused to descend towards the centre of the earth. Experience proves that when

bodies freely obey the influence of this power, they always descend in directions perpendicular to the surface of the earth, at the point where the line of that direction would penetrate it; and the spaces through which they descend are proportional to the squares of the times of descent. Thus, if the times, for example, be as the numbers 1, 2, 3, 4, &c., the spaces will be as 1, 4, 9, 16, &c. The spaces are always the same in the same time, whatever may be the magnitudes or masses of the bodies, independently of the resistance of the medium through which they move. This shows that gravity is proportional to the quantities of matter, or the number of particles, they contain. The increments of velocity, and consequently the whole velocities, are also proportional to the times of descent. Hence, when the space described and the velocity acquired in any given unit of time are known, the space and velocity for any other time may easily be found, or the time corresponding to any other space or velocity ascertained, by the following formula: viz.

$$s = gt^2 = \frac{1}{2}gt^2 = \frac{v^2}{2g};$$

where *s* = the space, *t* the time in seconds, *v* the final velocity, and *g* the space through which a heavy body descends by the action of gravity in one second.

GULF, in a geographical sense, is an arm of the sea, and is generally narrower at the entrance than within; as the Gulf of Venice, on the south of Europe; the Persian Gulf, on the south of Asia; and the Gulf of Mexico, between that country and Florida.

H

HEAT, in physical Geography, is indicated by an increase of temperature, and the sensation it produces upon the organ of feeling. For its quantity in the atmosphere, see **TEMPERATURE**.

HELIOCENTRIC is a term applied to denote the place of the heavenly bodies, as they would appear to a spectator situated in the centre of the sun; as heliocentric latitude, heliocentric longitude, &c.

HEMISPHERE is half the globe, when it is supposed to be cut through the centre by the plane of one of its great circles. This term, however, often indicates merely the surface of the semi-sphere. The hemispheres of the terrestrial globe are denoted by different names when formed by the intersection of different circles. Thus, the equator separates the northern and southern hemispheres; the meridian divides the eastern and western; and the horizon the upper and lower. The same denominations, also, apply to the celestial sphere.

HORARY is something relating to hours, as horary angle, horary circle, horary motion ; which see.

HORARY ANGLE is the angle formed by the meridian of any place and that which passes through the centre of a heavenly body at a given instant. By computing this angle, we find the time at the place of observation which is necessary for determining the latitude of the place from several altitudes of the sun taken near the meridian ; or for calculating the longitude, either by means of chronometers, or from the distance of the moon from the sun or the stars. The calculation of the *horary angle* is, therefore, one of the most important problems in Nautical Astronomy and *Physical Geography*.

From the moment the sun passes the meridian, till he arrives at 180° distant, the horary angle increases ; but from that moment it diminishes till it becomes nothing, at the instant of apparent noon. In the first half of the astronomical day, therefore, the horary angle, expressed in time, is equal to the hour itself ; but, in the other half, the time is equal to the difference between that angle and twenty-four hours, or between it and twelve hours, when the civil day is used.

As the sun's altitude varies every moment when he is above the horizon, the horary angle may be calculated from an observation of that altitude. This variation in altitude, however, is not uniform ; but is greatest when the sun passes the prime vertical, and becomes nothing when he reaches the meridian. The observations which give the horary angle with the greatest accuracy, are those that are made when the variation is greatest, which is when his azimuth attains its maximum.

Having made and corrected the requisite observations, and denoted the altitude of the heavenly body by A , its distance from the elevated pole by D , the latitude of the place by L , and the horary angle by H , astronomers have investigated the following formula for the value of this angle, viz.

$$\text{Sin. } \frac{1}{2}H = \left(\frac{\text{Cos. } \frac{1}{2}(L + D + A) \text{Sin. } (L + D - A)}{\text{Cos. } L \text{ Sin. } D} \right)^{\frac{1}{2}};$$

from which H is easily found when the values of the other letters are given. Suppose, for example, that on the morning of the 24th of May, 1814, in north latitude $43^\circ 15'$, and east longitude $23^\circ 30'$, a series of observations was made on the sun's lower limb, from which it was concluded, that the mean altitude was $29^\circ 5' 23''$, corresponding to the mean time 7h. 16m. 29s. : the height of the eye being eighteen feet. Then we have the true altitude $29^\circ 15' 28''$; and,

since the sun's declination and the latitude are both of the same denomination, the polar distance is $69^\circ 9'$. These being substituted in the preceding formula, instead of the respective letters, we have

$$\frac{1}{2}H = 34^\circ 3' 4'',$$

which, multiplied by 2, and reduced to time, at the rate of 15° to an hour, gives 4h. 32m. 24.5s. for the *horary angle* required.

Horary circles, or *hour circles*, are the meridians drawn on the surface of globes or maps, at the distance of 15° from each other, and thus denominated from the circumstance of the sun passing over that space in the interval of an hour.

Horary motion is the motion of any thing, as measured by the space it passes over in an hour. Thus, the horary motion of the earth on its axis is 15° in that time ; for as any point on its surface describes a complete circle in twenty-four hours, we have $\frac{360^\circ}{24} = 15^\circ$.

HORIZON is the great circle of the sphere which divides its surface into the upper and lower hemispheres. In this sense it is called the *rational horizon*, and its plane passes through the centre of the earth.

Horizon, *sensible* or *visible*, is that small circle of the sphere which bounds the observer's view, and separates the visible from the invisible part of the globe. These two horizons when applied to the earth are parallel to each other, and their distance is nearly equal to its semidiameter ; but, when extended to the heavens, they almost coincide, on account of their immense distance. The poles of these circles are in the zenith and nadir of the observer.

HOUR CIRCLES. See *Horary Circles*.

HYDROGRAPHY is a delineation of the aqueous part of the terrestrial globe ; especially the seas, with their coasts, shoals, rocks, soundings, &c. This study is of the greatest importance to navigation ; as the safety of the ship and crew may often depend upon the knowledge which it presents.

HYGROMETER is an instrument for measuring the humidity of the air.

I.

INCLINATION of the Earth's Axis is the angle it makes with the plane of the ecliptic. As the axis is perpendicular to the plane of the equator, and the plane of the ecliptic is inclined to it in an angle of $23^\circ 28'$, the inclination of the earth's axis to this latter plane is, consequently, equal to $90^\circ - 23^\circ 28' = 66^\circ 32'$.

Inclination of the Solar Rays is an expression often employed in physical geography, and implies the angle they form with the earth's surface at the time and

place of observation. This angle evidently varies at different times; for the sun is much more elevated at the same place in summer than in winter. At London, for instance, his greatest meridian altitude is nearly $61^{\circ} 59'$, and his least only $15^{\circ} 3'$. This inclination, also, varies with the distance of the place from the equator. At the tropic of Cancer, the sun is vertical at the same time that his rays form an angle of $61^{\circ} 59'$ at London.

Intercalary Day is the day composed of the odd 6 hours in every year, and is added to the 365 days every leap year.

ISLAND is a portion of land wholly encompassed by water, as Great Britain or Ireland. The surrounding medium may be either the sea or a lake, for some of the larger lakes contain several islands.

ISTHMUS is a narrow neck of land, uniting two continents, or frequently a peninsula to a continent; as the isthmus of Darien, or Panama, which unites North and South America; and the isthmus of Suez, which joins Asia and Africa. The isthmus of Corinth, also, joins the Morea to the rest of Greece. An isthmus, therefore, separates two seas, and is opposed to a strait or channel, which divides two portions of land, either insular or continental.

L.

LAKE is a portion of water, either entirely surrounded by land, or having no other outlet than a river, by which its contents are discharged. Lakes are numerous, and necessarily form a feature in the subsequent descriptions; those of Constance and Geneva, on the borders of Switzerland, or those of much greater extent in the northern regions of America, may serve as examples of the definition. When a lake is very extensive, it obtains the denomination of a sea, as the Caspian sea.

LATITUDE is the distance of a place from the equator, and is estimated in degrees, minutes, &c. on the arc of the meridian passing through the place. Hence, the latitude is either north or south, as the place is situated on the *north* or *south* side of the equator: thus, London is in latitude $51^{\circ} 31'$ north; and Paris in $48^{\circ} 50'$. The latitude of a place is always equal to the elevation of the pole above the horizon of that place. As a knowledge of latitude is of the greatest importance in geography, navigation, and astronomy, we have explained in Chap. II. some of the methods

by which it is usually found, and to which we must now refer.

Latitude, in astronomy, is the distance of a star, or planet, from the ecliptic; or it is the arc of a great circle perpendicular to the ecliptic, intercepted between that circle and the centre of the heavenly body.

Latitudes Increasing is an expression by which the enlarged parts of the meridian in the construction of Mercator's Chart are denoted; and these are also frequently styled *Meridional Parts*. Tables of them are accurately calculated, and are of great utility in the construction and use of these Maps. We have explained in Chap. II. the principles upon which they are computed. And the following brief table shows the lengths which ought to be given to the degrees of latitude, in charts of this kind, answering to the corresponding increase in the longitude. Although only embracing every degree, and taken to the nearest unit, it will be sufficient for all common geographical purposes. When the length is required for every minute of the quadrant, see *Robertson's Navigation*, and other similar works.

TABLE.

De ^g	Incr ^{ea} sing Latitude	De ^g	Incr ^{ea} sing Latitude	De ^g	Incr ^{ea} sing Latitude	De ^g	Incr ^{ea} sing Latitude
0	0	23	1419	46	3116	69	5731
1	60	24	1444	47	3145	70	5900
2	120	25	1480	48	3191	71	6116
3	180	26	1616	49	3362	72	6333
4	240	27	1684	50	3474	73	6534
5	300	28	1731	51	3599	74	6740
6	361	29	1819	52	3655	75	6976
7	421	30	1868	53	3764	76	7140
8	482	31	1936	54	3865	77	7467
9	542	32	1978	55	3977	78	7744
10	603	33	2029	56	4074	79	8040
11	664	34	2171	57	4133	80	8373
12	725	35	2244	58	4294	81	8739
13	787	36	2318	59	4407	82	9115
14	848	37	2333	60	4527	83	9606
15	910	38	2466	61	4649	84	10057
16	973	39	2545	62	4775	85	10565
17	1035	40	2625	63	4905	86	11133
18	1098	41	2702	64	5039	87	12522
19	1161	42	2782	65	5179	88	13917
20	1225	43	2863	66	5313	89	16000
21	1269	44	2946	67	5474		
22	1334	45	3030	68	5631		

LEAGUE, marine or geographic, is the twentieth part of a degree, or three nautical minutes or miles. If estimated in English miles, it is equal to

$$\frac{60}{20} = \frac{60}{1} = 3.16.$$

LEAP YEAR, or *Bissextile*, is every fourth year, and derives its name from its containing one day more than the common year. The common year has 365 days, but the leap year 366; the odd day being added to February, which makes that month consist of 29 days.

LEO (♌), the *Lion*, is one of the signs of the Zodiac, into which the sun enters about the 23d of July.

LIBRA (♎), or the *Balance*, is one of the twelve signs of the Zodiac, and that which the sun enters about the 23d of September, when he crosses the equator from north to south, and the autumnal quarter commences.

LONGITUDE is the distance of a place, eastward or westward, from the first meridian, and is measured on an arc of the equator. It is by the combination of latitude and longitude that the situation of a place, on the surface of the globe, is determined.

In addition to the explanation given in CHAP. II., it may be observed, that *Eclipses of the Moon* would be highly serviceable in finding longitude, if they were more frequent; for as her light is derived from the sun, and her eclipses are formed from the passage of the earth between her and that luminary, she must be then deprived of her usual light, and this obscurity is visible from every part of the earth's surface, to which she has then risen. Now, as what is required for this determination, is a signal that can be seen from distant parts of this surface, at the same moment of absolute time, the moon is well adapted for the purpose; more particularly as the number of spots on her disk afford the means of making several observations during the same eclipse. This enables us to compare the relative times at any two places, and, from this comparison, to deduce the distance of the meridians. By taking a mean of all the results, greater accuracy is obtained.

It is not, however, absolutely necessary to have observations made at both places; for if the beginning and end of the eclipse be calculated for one of them, it will generally be sufficient; as, by comparing this time with that of observation at the other place, the difference of longitude may be deduced. If, therefore, the longitude of the place for which the eclipse was calculated, be known, that of the place of observation is also determined. It was in this manner that M. *Lalande* found the longitude of *Casbine*, a place near the Caspian sea, from an observation made on the eclipse of

the Moon, by M. *Beauchamp*, on the 30th of July, 1787.

The end of the eclipse at h. m. sec.

Casbine was 7 45 30 solar time.

The same calculated for the

meridian of Paris was.. 4 36 38

The difference of the times

was equal to 3 8 52

This converted into degrees and minutes will give the longitude required. The best way of doing this is to divide the minutes and seconds by 4, to reckon the minutes in the quotient as degrees, and the seconds as minutes; and then add the product arising from multiplying the hours by 15.

According to this method, we have in m. s.

the present example 4)8 52

2° 13'

Also $3\text{h.} \times 15 = 45$

The longitude east of Paris..... 47° 13'

Eclipses of the Sun may also be employed for ascertaining the longitude, but the calculations are more difficult than for those of the moon. This difficulty arises from the circumstance, that in solar eclipses, there is no real deprivation of light, as in those of the moon. The sun is then only partially obscured by the passage of the moon between him and the earth, which causes a solar eclipse at some places, without any such phenomena happening at others. Neither the beginning nor end of the eclipse will therefore be seen at the same moment of absolute time at any two places, unless they are situated on the same meridian. Hence, the calculation of the real times of these appearances becomes more tedious and complicated.

Eclipses of Jupiter's satellites are also proper celestial phenomena for finding longitude. For as these accompany their primary round the sun, as the moon does the earth, they are frequently deprived of their light, in passing through his shadow, in which they appear and disappear almost instantaneously. The first and second satellites are best adapted for this purpose, as their motions are the most rapid, and their eclipses the most frequent. The longitude deduced from them, may, therefore, be rendered the more correct. The utility of these eclipses, in promoting the science of Geography, was early perceived, and

tables of their phenomena have been calculated. As the commencement and termination of each eclipse is seen at the same moment, at all places where Jupiter is then visible, the difference in the time at which the same eclipse is observed at any two places, converted into degrees and minutes, will give the difference of longitude between them. When only one observation is made, the time may be compared with that which has been calculated for some other place, where the longitude is known, and the difference of longitude thus ascertained.—These eclipses, however, can only be used for finding the longitude of places on land; as the instruments requisite for observing them cannot be used with sufficient steadiness at sea.

Occultations of the fixed stars afford another means of determining the longitude of the place, where the observation is made, provided its latitude be previously known; but the method by which this is accomplished, involves a calculation very troublesome to those who are not accustomed to astronomical computations. It would, however, be of great service to geography, if travellers would observe these phenomena as frequently as possible, as by this means the longitudes of numerous places would receive correction; and the calculations may be subsequently made either by themselves or others.

The transits of Venus also present opportunities for the determination of longitude; but the intervals between their recurrence are so protracted, that they are seldom available for that purpose. M. *Delaunay* has calculated all the transits of this planet that can happen between the years 900 and 3600, and states 35 at the greatest possible number.

As a degree of longitude is the 360th part of a circle, it is necessarily greatest at the equator, and thence decreases to the poles, where it is nothing. For the length of the degrees corresponding to different latitudes, see the TABLE under DEGREE.

Longitude of a Star, &c. is an arc of the ecliptic, reckoned from the beginning of Aries to the place where the circle perpendicular to the ecliptic, and passing through the star cuts that circle. As celestial longitude is reckoned from the first point of Aries, wholly round the globe, it may be any number less than 360°.

LUNATION is the interval of time between one new moon and another, which is generally about 29 days and a half; and which, therefore, constitutes the synodical or lunar month.

M.

MAGNITUDE is the size or bulk of any body, and is often distinguished, in physical science, into *real* and *apparent magnitude*, the former implying what the body really is, and the latter what it appears to be. For the magnitude of the earth, and the means of ascertaining it, see CHAPTER II.

MAP is a plane figure representing either the whole or a part of the earth's surface; being a projection of the different countries, seas, mountains, coasts, rivers, and other features of the globe, in their relative situations and proportions, as nearly as the nature of the problem will admit, for a globular surface cannot be correctly represented on a plane. Maps are therefore either general or particular, as they represent the whole or a part of the earth. The most approved methods of constructing both kinds, as well as their use in geography, have been explained in the 2d Chapter of this INTRODUCTION.

MEASURES, in a geographical sense, are either *linear* or *square*; the former are employed in the valuation of distances, the latter in the estimation of superficial extent. *Linear* measure, therefore, is the length of some particular standard in which these distances are estimated; as a foot, a yard, or a mile. *Square* measure is consequently a square portion of superficial extent, having one of these linear measures for the length of its side. As measures of both these kinds are of common use, and their comparison of constant recurrence in geography, we shall insert in this place, for the convenience of general reference, some of the principal measures of both ancient and modern nations, with their relation to the English standard.

English measures of length.

Inches.	Foot.	Yard.	Fathom.	Pole.	Furlong.	Mile.
12	1					
36	3	1				
72	6	2	1			
108	16½	5½	2½	1		
7920	660	220	110	40	1	
63360	5280	1760	880	320	8	1

English Square measures.

Inches.	Foot.	Yard.	Pole.	Rood.	Acres.	Mile.
144	1					
1296	9	1				
39204	272½	30½	1			
1568160	10890	1210	40	1		
6272640	43560	4840	160	4	1	
1014489600	27678400	3097600	102400	2560	640	1

Ancient Linear and Itinerary Measures.

		Eng. Feet.
Cubit..	Royal Babylonish	1·538
	Mean Babylonish	1·367
	Jewish Common	1·817
	———— Sacred	2·002
	———— Great (& Common)	10·902
Foot ..	Arabian	1·0035
	Babylonian	1·144
	Delphic	0·810
	Drusian	1·090
	Egyptian	1·421
	Greek, according to Hutton.....	1·009
	Folkes.....	1·006
	Cavallo	1·007
	Greek, Phyleterian	1·167
	Hebrew	1·221
	Macedonian.....	1·160
	Natural	0·814
	Ptolemaic	1·009
	Roman, according to Bernard ...	0·970
	Picard	0·967
	Folkes	{ 0·967 0·966
	Roman, before Titus	0·970
	after Titus..	0·965
		Eng. Miles.
	Sicilian	0·730
Mile..	Egyptian	1·221
	Hebrew	0·725
	Persian	1·036
	Roman, according to Pliny.....	0·917
	Strabo	0·929
Schœne..	Egyptian, Upper.....	6·213
	Middle	12·236
	Lower	4·142
Stadium..	Egyptian	0·138
	Greek, Delphic	0·092
	Olympic	0·115
	<i>Modern Itinerary Measures.</i>	
		No. in a degree
Berri, of Turkey	66 $\frac{3}{4}$	English miles. 1·038
Cos, of Hindostan	42 $\frac{3}{4}$	1·619
Gos, of Surat	10	6·920
Gros, of Coromandel	11	6·291
Malabar	10	6·920
Kilometre, of France	111 $\frac{1}{2}$	0·622
League, of Anjou.....	33	2·097
Arabia	57 $\frac{1}{2}$	1·210
Artois	28	2·471
Batavia and Java	16·087	1·302
Beauce	33	2·097

	No. in English degree.	miles.
Berry.....	26	2662
Bologna	58.48	1813
Bourgogne.....	21.521	2215
Brazil.....	17	1070
Bretagne	33	2097
Canada	28.54	2425
Carnatic.... (Hindostan)	35	1977
Cayenne.....	28	2411
England.... (geographic)	20	3460
France, Post=2000toises	28.54	2425
Geogra. or com	25	2728
Marine.....	20	3460
Mean	22.25	3410
Gascogne	19.025	3637
Guiana	26.838	2578
Lyons.....	23	3009
Milan	67.25	1029
Mysore ... (Hindostan)	17	1070
Naples	57.71	1499
Piedmont	48	1412
Poitou	21	2883
Poland	20	3460
Portugal.....	18	3844
Provence	19.025	3637
Roman	74.7	0926
Spain, New	16.8	4152
Horary	20	3460
Juridical	26.7	2595
Surinam.....	26.838	2578
Touraine	28.54	2425
Tuscany.....	68.25	1014
Venetian states	60.62	1441
Li of China.....	192.4	0359
Mile of .. Bohemia.....	16	4325
Brabant	20	3460
Denmark	14.77	4685
Dresden	12	5551
England, Statute	69.2	1000
Geographic ..	60	1453
Germany, Great	12	5767
Com. or geogra	15	4015
Little	17.75	3899
Holland	19	3612
Hungary	13.7	5190
Iceland..... (marine)	9	7689
Ireland	49	1730
Lithuania	12.14	5563
Luxembourg	28	2471
Norway	10	6920
Prussia	11.37	4815
Russia (geographic)	17.453	3965
Saxony (Police)	12.29	5549
Scotch	50	1384
Silesia	17.18	4028
Westphalia	10	6920
Myriametre, of France.....	11.125	6220
Parasang, of Persia.....	12.5	5536
Pfasc, of Batavia.....	105.6	0655
Roe-ning, of Siam	28.942	2391
Verst, of Russia, Common	101.25	0664
Fixed	104.72	0661

Modern Superficial or Topographical Measures.

	Square Leag.	Sq. Eng. Mues.		Square Leag.	Sq. Eng. Mues.
Berri, of Turkey	0.090	1.077	Russia (geographic)	1.313	15.721
Cos, of Hindostan	0.219	2.621	Saxony (Police)	2.649	30.791
Cos, of Surat	4.000	17.886	Scotch	0.160	1.915
Gros, of Coromandel	3.305	39.587	Silesia	1.555	16.225
Malabar	4.000	17.886	Westphalia	1.000	17.886
Kilometre, of France	0.032	0.387	Myriametre of France	3.232	38.688
League, of Anjou	0.367	4.397	Parasang of Persia	2.560	30.647
Arabia	0.122	1.464	Plase of Batavia	0.035	0.429
Artois	0.510	6.106	Roe-ning of Siam	0.177	5.717
Batavia and Java	1.546	18.507	Verst of Russia, Common	0.037	0.441
Beauce	0.367	4.397	Fixed	0.036	0.437
Berry	0.592	7.086			
Bologna	0.117	3.287			
Bourgogne	0.864	10.336			
Brazil	1.381	16.565			
Bretagne	0.367	4.397			
Canada	0.491	5.881			
Carnatic, ... (Hindostan)	0.327	3.908			
Cayenne	0.510	6.106			
England	1.000	11.972			
France, Post=2000 toises	0.491	5.881			
Geograp. or com.	0.640	7.442			
Marine	1.000	11.972			
Mean	0.808	9.672			
Gascogne	1.105	13.228			
Guiana	0.555	6.646			
Lyons	0.752	9.054			
Milan	0.088	1.059			
Mysore, ... (Hindostan)	1.384	16.565			
Naples	0.120	1.438			
Piedmont	0.162	2.079			
Poitou	0.694	8.312			
Poland	1.000	11.972			
Portugal	1.234	14.776			
Provence	1.105	13.228			
Roman States	0.072	0.857			
Spain, New	1.421	17.239			
Horary	1.000	11.972			
Juridical	0.535	6.725			
Surinam	0.555	6.646			
Touraine	0.490	5.881			
Tuscany	0.086	1.028			
Venetian States	0.109	1.302			
Li of China	0.011	0.129			
Mile of .. Bohemia	1.562	18.706			
Brabant	1.000	11.972			
Denmark	1.832	21.949			
Dresden	2.629	30.814			
England, Statute	0.084	1.000			
Geographic	0.111	1.329			
Germany, Great	2.777	33.159			
Com. or geogra.	1.777	21.279			
Little	1.269	15.202			
Holland	1.108	13.264			
Hungary	2.240	26.936			
Iceland	4.939	59.121			
Ireland	0.250	2.993			
Lithuania	3.029	30.947			
Luxembourg	0.590	6.106			
Norway	4.000	47.886			
Prussia	1.936	23.184			

MERIDIAN, in geography, is a great circle passing through the poles of the earth, and any given place on its surface. It therefore divides this surface into two hemispheres, the one being the eastern, and the other the western. As the terrestrial meridian is the circle over which the sun is at noon, it is consequently in the plane of the celestial meridian with which the centre of the sun coincides at that time. Now, as by the earth's revolution about its axis from west to east, once in 24 hours, every part of the equator is successively presented to the sun, all places that are situated eastward or westward of each other have their respective meridians. It is, therefore, always the same hour of the day at all places situated on the same meridian.

The first Meridian of any country is that from which its geographers, navigators and astronomers commence their reckoning of longitude. As the meridians have nothing in themselves to distinguish them from each other, the fixing upon one for this purpose is an arbitrary assumption; and hence different persons, nations, and ages, have commenced their longitudes at different points, which has introduced much confusion into the descriptions of geography.

Longitudes were formerly reckoned from the meridian which passed through the island of *Ferro*; but as each country now usually adopts the meridian of its own capital as the first, the following longitudes will facilitate the conversion of the reckoning from one country to that of another, as explained at page *lxvii*. These meridians are compared with that of the Royal Observatory at Greenwich.

Places.	Longitudes.		
Amsterdam	4	17	30E
Berlin	13	22	0—
Bern	7	20	6—
Constantinople	28	55	15—
Copenhagen	12	25	6—

Dresden	13	43	1E
Ferro	17	45	50W
Florence	11	15	45E
Geneva	6	9	30—
Hanover	9	42	51—
Lisbon	9	8	25W
Madrid	3	33	8—
Munich	11	35	15E
Naples	14	15	45—
Paris	2	20	15—
Petersburgh, St.	30	18	45—
Rome	12	25	15—
Stockholm	18	3	45—
Stutgard	9	11	0—
Turin	7	40	15—
Venice	12	20	57—
Vienna	16	22	45—
Weimar	11	52	0—

MICROMETER is an instrument by which the apparent magnitudes of objects, seen through either telescopes or microscopes, are measured.

MILE is an itinerary measure by which, in many countries, *distances* are estimated. For the different lengths denoted by the word, see **MEASURES**.

Minute of a degree is the 60th part of a degree; and this is subdivided into 60 seconds; and each of these again into thirds, when necessary.

Minute of time is the 60th part of an hour, and this like the former is sub-divided into 60 equal parts called seconds. Longitude may be expressed in either of these measures; that is, either in degrees and minutes of the circle, or in hours, minutes, and seconds, of time. For the conversion of the one into the other, see **TIME**.

MOUNTAIN is any considerable elevation on the earth's surface. This name is applied to both detached heights, and connected groups or chains of these eminences. Naturalists reckon several kinds of mountains; and think that these different elevations had neither the same origin, nor their formation at the same era.

Those mountains that constitute a chain, and are covered with snow, are considered as primitive. They appear as the majestic bulwarks of Nature, scattered over the surface of the globe, and greatly exceed the other kinds in height. They are generally characterised by an abrupt elevation. Their shape is frequently conical, and their summits crowned with sharp, naked, and projecting rocks; while their sides present cascades, precipices, and valleys of the most

terrific description, exhibiting an almost inconceivable picture of disorder and decay. They are composed of vast masses of rock, that seem to descend almost perpendicularly into the body of the earth, and are destitute of all shells or organized marine matter. The stone of which they consist, is an immense mass of quartz. Here we see Nature, as it were, in her elementary shape, in which rocks upon rocks seem like the skeleton of a world waiting to be clothed, interminable wastes, where the Creator appears almost to have forgotten to be gracious.

Another species into which mountains have been divided, embraces those that are more detached, or surrounded with groups of lower hills, the soil of which appears to be heaped up in a disorderly manner, and consists of gravel and other loose substances. Many of these are truncated, or have an opening towards their summits, and are either composed of, or surrounded with, masses of lava, and half vitrified bodies, denoting a volcanic origin. Mount Etna, the Peak of Teneriffe, &c. are of the description.

When the stone of which mountains are composed is stratified and consists of different colours and substances, they are regarded as forming a separate class, and as having been formed by the depositions of water; and this idea is confirmed both by the horizontal position of the strata and the remains of organized marine bodies they contain.

It has frequently been observed, that the south side of mountains, stretching from east to west, is steeper than the north; and the west more abrupt than the east, when they extend from north to south. As a more particular description of these prominent features of the terrestrial surface is necessarily included in other parts of this work, we shall only subjoin a list of the principal heights that have been ascertained. Two modes are employed in measuring these altitudes. The one is by taking the angular elevation and calculating the height on the principles of *geometry*; the other is by the use of the *Barometer*. The method of employing this instrument is explained under that word.

Heights of the principal Mountains on the globe in English Feet.

EUROPE.

		<i>Feet.</i>
Aiguille d'Argenture	<i>Alps</i>	13,389
Aiguille noir de Nevache	<i>ditto</i>	10,505
Allée blanche	<i>ditto</i>	7,424
All Ells	<i>ditto</i>	12,194

		Fect.
Angelo, St., Monte ..	<i>Lipari Islands</i>	5,260
Antane, Pic d'	<i>Alps</i>	9,702
Antecedas, L'	<i>ditto</i>	9,336
Arbizon, Pic d' .. .	<i>Pyrenees</i>	8,344
Axeinberg	<i>Alps</i>	7,472
Bains de Barege .. .	<i>Pyrenees</i>	9,297
Balme, Col de	<i>Alps</i>	7,852
Bernard, Great St. Hospice ..	<i>ditto</i>	8,282
The highest inhabited spot in Europe		
——, Summit of	<i>Alps</i>	11,092
——, Little St. Hospice ..	<i>ditto</i>	7,200
Bernhardin	<i>ditto</i>	6,772
Blanc, Mount	<i>ditto</i>	15,062
Blanc, Pic	<i>Pyrenees</i>	10,205
Bonhome, Col de	<i>Alps</i>	8,302
Brenner, Mount	<i>Tyrol</i>	5,100
Brevent, Mount	<i>Alps</i>	8,602
Budislaw	<i>Transylvania</i>	6,888
Buet	<i>ditto</i>	10,098
Canigou,	<i>Pyrenees</i>	9,290
Cenis, Mount, Pass of	<i>Alps</i>	6,778
Cimone, Monte,	<i>Italy</i>	6,401
——, Summit of		9,213
Corn du Midi	<i>Alps</i>	11,274
Crevin, Col de	<i>ditto</i>	11,182
Dôle,	<i>Mount Jura</i>	5,663
Dôme, Puy de	<i>France</i>	5,177
Dromas, Point de	<i>Alps</i>	9,570
Eiger	<i>ditto</i>	13,170
Euamont	<i>ditto</i>	9,560
Feret, Col de	<i>ditto</i>	7,940
Fiend	<i>ditto</i>	10,330
Finsteraarhorn	<i>ditto</i>	13,980
Furka	<i>ditto</i>	8,550
Fleischbank	<i>Hungary</i>	6,168
Gallenstock	<i>Alps</i>	12,110
Gemmi	<i>ditto</i>	7,602
Genevne, village on	<i>ditto</i>	5,945
Glockner, Gross	<i>Tyrol</i>	12,980
Gothard, St. Hospice	<i>Alps</i>	7,320
——, Summit	<i>ditto</i>	9,075
Gries	<i>ditto</i>	8,290
Grimsel, Hospice on	<i>ditto</i>	7,350
Hohenwarshöhe	<i>Tyrol</i>	11,077
Jocelme	<i>Alps</i>	13,869
Jungfranhorn	<i>ditto</i>	13,622
Jura, highest point	<i>ditto</i>	5,663
Kassberg, summit of	<i>Styria</i>	5,215
Kesmark, peak of	<i>Hungary</i>	8,508
Kogel, Gross	<i>Carinthia</i>	9,700

		Fect.
Kriwan	<i>Hungary</i>	8,343
Kriwan, Gold mine of	<i>Hungary</i>	6,954
Lomnitz, highest point of the	<i>Carpathian</i>	8,870
Cham		
Lencira	<i>Alps</i>	14,451
Loupilou	<i>ditto</i>	14,141
Mabore	<i>Pyrenees</i>	10,398
Maladetta	<i>ditto</i>	11,270
Mole, the	<i>Alps</i>	6,662
Monch-hora	<i>ditto</i>	11,604
Malbaccn	<i>Spain</i>	11,669
Mythen	<i>Alps</i>	6,670
Nager-horn	<i>ditto</i>	12,217
Neusen	<i>ditto</i>	8,090
Nordon Top	<i>Lapland</i>	6,178
Oertler Spitze	<i>Tyrol</i>	15,130
Oetscher	<i>Styria</i>	6,376
Or, Mount d'	<i>France</i>	6,700
Ostelle	<i>Styria</i>	12,800
Pegolara	<i>Spain</i>	7,000
Perdu	<i>Pyrenees</i>	11,271
Pezey, Mine de	<i>France</i>	6,016
Piz-osem	<i>Alps</i>	11,890
Plomb de Cantal	<i>France</i>	6,345
Priel, Summit of	<i>Austria</i>	6,565
Pry de Sansi	<i>France</i>	6,700
Rathasberg	<i>Salzburg</i>	8,800
Reulet	<i>Mount Jura</i>	5,663
Reyes, Pic des los	<i>Pyrenees</i>	7,620
Rige	<i>Alps</i>	6,480
Rosa, Mount	<i>ditto</i>	15,527
Roth-horn	<i>Tyrol</i>	9,640
Rothstock	<i>Alps</i>	10,312
Rotondo	<i>Corsica</i>	8,694
Salmshöhe	<i>Alps</i>	8,913
Scheidg	<i>ditto</i>	6,612
Scherhorn	<i>ditto</i>	10,840
Schreckhorn	<i>ditto</i>	13,312
Seigne, Col de	<i>ditto</i>	8,340
Seleve	<i>ditto</i>	5,172
Seuvin, Mount	<i>ditto</i>	14,642
Silver mine, near Stertzin ..	<i>Tyrol</i>	8,048
Simplon, Hospice	<i>Alps</i>	6,822
——, Village	<i>ditto</i>	5,342
Sneehättan	<i>Norway</i>	8,100
Snehal	<i>Iceland</i>	6,860
Spugen	<i>Alps</i>	6,702
Sustenhorn	<i>ditto</i>	11,690
Titlis	<i>ditto</i>	10,540
Tchaturdag	<i>Russia</i>	6,600

	Feet.
Varens, Mount <i>Alps</i>	7,972
Vilino, Mount <i>Naples</i>	7,878
Viso, Mount <i>Alps</i>	10,051
Watzmann <i>Salzburg</i>	9,600
Wechsel <i>Styria</i>	5,705
Wetterhorn.. .. . <i>Alps</i>	12,500

For the heights of the principal points in Great Britain, see pages 143 and 209 of this volume.

MOUNTAINS IN ASIA.

The Mountains of Asia have not been determined with the same precision as those in Europe and America. Few of them have been correctly measured ; and the following numbers must, therefore, be considered rather as approximate estimates, than as the exact heights. The *Himalah Mountains* are now thought to be the highest on the globe ; and some of the loftiest peaks have been stated at more than 25,000 feet above the level of the sea. Mr. Webb, indeed, from angles taken at three different stations, makes the height of one of the peaks 27,550 feet. Colonel Crawford, Mr. Colebrooke, and Mr. Moorcroft, all agree as to their stupendous magnitude. Mr. Fraser thinks the highest peaks are from 18,000 to 23,000 feet above the sea, but he had not any instruments by which he could determine the point.

	Feet.
Ararat <i>Turkey</i>	9,600
Chumularee <i>Bootan</i>	11,960
Egmont, Mount <i>New Zealand</i>	11,430
Ghassa <i>Bootan</i>	13,030
Highest summit <i>in Tibet</i>	25,000
Italitzkoi <i>Altai chain</i>	10,735
Jesso, Peak of <i>Isle of Jesso</i>	7,680
Lebanon <i>Palestine</i>	9,600
Olympus <i>Turkey</i>	6,500
Ophir, Mount <i>Sumatra</i>	13,840
Parmesan <i>Isle of Banca</i>	10,050
Petcha <i>Chinese Tartary</i>	15,000
Quilpaert <i>Isle of Quilpaert</i>	6,400
Schlangenberg <i>Altai Chain</i>	6,050
Sludina <i>ditto</i>	7,720
Sochondo <i>Chinese Tartary</i>	12,800
Soomookang <i>Bootan</i>	14,000
Tigeretzkoï <i>Altai Chain</i>	10,735
Torgonskoi <i>ditto</i>	10,700

MOUNTAINS IN AFRICA.

	Feet.
Amid-Amid.. .. . <i>Abyssinia</i>	13,000
Atlas, highest Peak of	11,980

	Feet.
Bonnet Pointou <i>Isle of Bourbon</i>	6,050
Compass Mountain <i>Cape, Colony</i>	10,000
Entre-deux, ridge of <i>Isle of Bourbon</i>	6,000
Geesh <i>Abyssinia</i>	15,000
Gondar, Mountains <i>ditto</i>	8,450
Gros Morne <i>Isle of Bourbon</i>	10,240
Lamalmou <i>Abyssinia</i>	11,200
Monton de Tugo.. .. . <i>Canary Isles</i>	7,400
Ruino <i>Madeira</i>	5,162
Taranta <i>Abyssinia</i>	7,800
Teneriffe, Peak of	12,21

Various Mountains exist in other parts of Africa, but their heights are not known.

MOUNTAINS IN AMERICA.

	Feet
Antisana <i>Andes</i>	19,149
———, Farm-house on <i>ditto</i>	13,434
Highest inhabited spot on the globe	
Altar <i>ditto</i>	17,172
Assuay, Plain and Road of <i>ditto</i>	13,123
Axusco, Cero d' <i>Mexico</i>	12,152
Bayo Pongo.. .. . <i>Andes</i>	15,800
Bloaserk <i>Greenland</i>	6,000
Blue Mountains, highest point <i>Jamaica</i>	7,13.
Borma.. .. . <i>Andes</i>	10,329
Cahonapata.. .. . <i>ditto</i>	11,641
Carguirazo <i>ditto</i>	15,540
Cata Cathe <i>ditto</i>	16,434
Cayamba Urea <i>ditto</i>	19,386
Chimborazo highest point of <i>ditto</i>	21,441
Chota, Mines of <i>ditto</i>	11,562
Cofre de Perote <i>Mexico</i>	13,275
Colaya, City of <i>New Spain</i>	6,020
Corazon <i>Andes</i>	15,808
Crillon, Mounts of <i>N. West</i>	5,440
Cuanama <i>N. Andalusia</i>	6,400
Cuernavaca, City of <i>N. Spain</i>	5,433
Disca Casada <i>Andes</i>	19,570
Durango <i>N. Spain</i>	6,847
Elias, Mount St. <i>N. America</i>	12,672
El Jacal <i>N. Spain</i>	10,249
Fairweather, Mount of <i>N. America</i>	8,970
Fraide, Peak of <i>ditto</i>	15,129
Gargaviraco <i>Andes</i>	15,680
Guachano.. .. . <i>S. America</i>	5,250
Guanaxuato, City of <i>N. Spain</i>	6,836
Guancavelica <i>Andes</i>	14,961
Ilinissa <i>ditto</i>	17,239
Isla Guaca, Town of <i>N. Spain</i>	8,481
Iztaccihault.. .. . <i>ditto</i>	15,700

	Feet.
La Publa, City of N. Spain	7,189
Mexico, City of ditto	7,470
Mines of Huauca Velica .. S. America	13,600
Moran, Mine of N. Spain	8,513
Morne Garou St. Vincent	5,050
Navada of Merida S. America	15,201
Organos de Actopan N. Spain	9,766
Pachuca, Town of ditto	8,149
Papayan, City of S. America	5,950
Pascuara, City of N. Spain	7,224
Pelée, Mount of Martinique	5,100
Perote, Town of N. Spain	7,727
Pico de Tancitaro ditto	10,498
Potosi, summit of Andes	18,000
Queretaro, City of N. Spain	6,364
Quito, City of S. America	9,511
Real del Monte, Mines of .. ditto	9,058
Riobamba, City of, highest on the globe	10,880
Ruins of Los Paredones .. ditto	13,261
Salamanca, City of N. Spain	5,763
San. Juan del Rio, Town of .. ditto	6,189
Santa Fe de Bogota, City of S. America	8,691
Schangilli, Plain of ditto	8,992
Sierra Merida Andes	16,120
Sierra Santa Martha ditto	15,200
Silla de Caraccas S. America	8,420
Tasco, City of N. Spain	5,852
Toluca, Lake of Mexico	12,195
Toluca, City of ditto	8,818
Trailes, Pico de N. Spain	15,159
Valepciana, Mine of Mexico	7,657
White Mountains United States	7,800

N.

NADIR is that point of the heavens which is diametrically opposed to the zenith. It is, therefore, the point where a diameter drawn from the place of observation would meet the opposite hemisphere.

NEEDLE, magnetic, is a needle rubbed with the load-stone, and supported by a pivot, on which it turns freely, and points out the magnetic meridian. See **COMPASS** and **DIP**.

NODES are those points in the orbits of the planets where they intersect the ecliptic. The moon must be in, or very near, one of her nodes, every time there is either a solar or a lunar eclipse.

NORTH is that point of the horizon which is equally distant from the east and west points, and is diametrically opposed to the south.

NUTATION is a kind of libratory motion of the

earth's axis, occasioned by the attraction of the moon, by which its inclination to the plane of the ecliptic is subject to a variation of a few seconds; the greatest extent of this variation is about 19" and the period of its duration, that is, from the time of one maximum state to another, is about eighteen years and a half, which is the period of the lunar motions.

O.

OASIS is a term now frequently applied to a fertile district amidst vast deserts of sand. Several of these occur in the sandy oceans of the African deserts; where the contrast was so great, as to induce the ancients to regard them as the *hesperides*, or isles of the blessed.

OBLIQUE SPHERE is that position of the sphere in which the axis is oblique to the horizon. The equator and the parallel also cut that circle obliquely. It is this obliquity which occasions the variation in the lengths of the days and nights, and the difference of the seasons.

OBLIQUITY of the Ecliptic, see **ECLIPTIC**.

OCCULTATION is the obscuration of any star, or planet, by the interposition of the Moon, or some other planet. For its use see **LONGITUDE**.

OCEAN is the term by which the vast mass of waters covering about two-thirds of the earth's surface is designated. For the sake of perspicuity, geographers have supposed it to be divided into various parts, to which they have given particular names. For these divisions, and all the principal circumstances relative to this immense body of aqueous fluid, see **CHAP. III**.

OPPOSITION is the position of the heavenly bodies when they appear in opposite points of the heavens, or when they are 180 degrees from each other.

ORBIT is the path which any of the planetary bodies describes during a complete revolution round the sun, or its primary planet. The orbit of the earth is the ecliptic, or that great circle which the sun appears to describe among the constellations in the course of a year.

ORTHOGRAPHIC projection is the projection of a sphere, upon a plane passing through its centre, the point of view being supposed to be at an infinite distance from this plane. See **CHAP. II. lxx**.

P

PARALLAX is the difference of the positions in which any of the heavenly bodies would appear, if

seen at the same instant, from the centre of the earth, and from any point on its surface, not in the right line between the centre and the body. Or it is the angle formed by two visual rays, one from the body to the centre of the earth, and the other to the place of observation. If the zenith distance of a celestial body be known, and denoted by z , the distance of that body from the centre of the earth by d , and the radius of the earth by r ; we shall have two sides and an angle opposite one of them, in a plane triangle, given to find the angle opposite the other side. Hence, as the sides are proportional to the sines of their opposite angles, we have,

$$d : r :: \sin z : \sin p,$$

where p denotes the parallax: and therefore,

$$\sin p = \frac{r \sin z}{d}.$$

But when the body is in the horizon, or the zenith distance is equal to 90 degrees, the sine of z becomes equal to 1; and the horizontal parallax, being represented by h , we have,

$$\sin h = \frac{r}{d}$$

Then by exterminating $\frac{r}{d}$ by means of these two equations, we obtain

$$\sin p = \sin h \cdot \sin z.$$

As the distances of the heavenly bodies from the earth are so great with respect to the terrestrial radius, the parallactic angles will always be small. Even for the moon, which is much the nearest, it seldom exceeds one degree; and therefore the arcs may be substituted for their sines, without introducing an error into the result equal $\frac{1}{65536}$ th part of the whole arc. Hence we have finally

$$p = h \sin z.$$

From the preceding formula,

$$\sin h = \frac{r}{d}.$$

It is, therefore, evident that the horizontal parallax is the greatest possible; and that it becomes insensible when the fraction, constituting the right hand member of the equation, is very small; and nothing when d is indefinitely great with respect to r , as in the case of the fixed stars. In order, however, that the parallax may be absolutely nothing, d must be infinite, or $r=0$, which is not possible; but if

$$\frac{r}{d} = \frac{1}{2062648} = \sin 1'',$$

it would be too small to be ascertained by observation.

As the parallax of the moon varies with her altitude while her horizontal parallax remains the same, the following easy rule will give it for any altitude, when the horizontal parallax at the time is known,—viz. *Add the logarithmic sine of the horizontal parallax to the logarithmic cosine of the moon's altitude, omitting ten in the index, and the sum will be the logarithmic sine of the parallax corresponding to that altitude.* **EXAMPLE.**—Required the Moon's parallax answering to 30° degrees of altitude; the horizontal parallax at the time being 55'.

$$\text{Logarithmic sine of } 55' = 8.2040703$$

$$\text{Logarithmic cosine of } 30^\circ = 9.9375306$$

$$\text{Parallax required } 47' 35'' = 8.1416009$$

Having explained the method of making the necessary correction, in the observed altitudes of the heavenly bodies, on account of parallax, we shall only insert the following small table. See CHAP. II., page *lxxi*.

Table of Solar Parallax.

App. Alt.	Solar Par.	App. Alt.	Solar Par.	App. Alt.	Solar Par.	App. Alt.	Solar Par.
1°	9	21	6	47	6	70	3
2	9	23	8	48	6	71	3
3	9	26	8	49	6	72	3
4	9	27	8	50	5	73	3
5	9	27	8	51	5	74	3
6	9	29	7	52	5	75	2
7	9	30	7	53	5	76	2
8	9	31	7	54	5	77	2
9	9	32	7	55	5	78	2
10	9	33	7	56	5	79	1
11	9	34	7	57	5	80	1
12	9	35	7	58	5	81	1
13	9	36	7	59	5	82	1
14	9	37	7	60	4	83	1
15	9	38	7	61	4	84	1
16	9	39	7	62	4	85	1
17	9	40	7	63	4	86	1
18	8	41	7	64	4	87	0
19	8	42	6	65	4	88	0
20	8	43	6	66	4	89	0
21	8	44	6	67	3	90	0
22	8	45	6	68	3		
23	8	46	6	69	3		

PARALLELS of Latitude are small circles of the sphere parallel to the equator; and are so called from the circumstance that all places situated on each of these circles have the same latitude, or are equally distant from the equator.

PENDULUM is any heavy body suspended from a point, and caused to oscillate by the force of gravity. This simple instrument is not only used as a measure of time, but is also employed in ascertaining the intensity of gravity at the earth's surface, and, by that means, in determining its figure. It is, therefore, one of those mechanical instruments which have contri-

buted to the perfection of scientific geography, and its principles, in consequence, require explanation in this place.

The length of a pendulum is the distance between the point of suspension and the centre of oscillation, or the point into which if all the matter in the pendulum were concentrated, the vibrations would be performed in exactly the same time as by the whole body. This length is always proportionate to the intensity of gravity at the place where it is used, when the time is constant. Hence the pendulum becomes a proper instrument for ascertaining the distance of different points from the centre of attraction, or of the earth's surface from its centre. If we denote the length of the pendulum by l , the force of gravity at any place by g , the ratio of the diameter of a circle to its circumference by π , and put t = the time of one oscillation, then, for the small arcs of its vibration, when applied as a measure of time, the relation between these quantities will be expressed by,

$$t = \pi \sqrt{\frac{l}{g}}$$

Also, if l' and g' denote the length of the pendulum and the force of gravity in any other situation, we shall have,

$$t = \pi \sqrt{\frac{l'}{g'}}$$

Then by putting these two values of t equal to each other, reducing the equation to its simplest form, and converting it into a proportion, we obtain,

$$l : l' :: g : g'$$

which shows, that when the lengths of the second's pendulum is found by experiment in different latitudes, the intensity of gravity at these places is also determined. The following are the general results that have been thus obtained; the length of the pendulum at the equator being unity, and the time of vibration the same in them all: viz.

Latitude.	Length of the Pendulum
0° 0'	1.00000
18 0	1.00076
43 36	1.00282
48 50	1.00332
66 48	1.00470

These, however, are only the ratios of the lengths in these latitudes. To find the absolute lengths, one of them must be given, from which the others become

known, as well as those in any other latitudes, which vary as the squares of the sines. Now, it has been found by numerous experiments, that the length of the second's pendulum in the latitude of London is very nearly 39½ English inches; from which it is readily found in other places.

The lengths of pendulums, in the same latitude, are as the squares of their times of vibration; for from the preceding formulæ,

$$t = \pi \sqrt{\frac{l}{g}}, \text{ and } t' = \pi \sqrt{\frac{l'}{g'}}$$

and therefore, $t : t' :: \pi \sqrt{\frac{l}{g}} : \pi \sqrt{\frac{l'}{g'}}$.

By omitting the quantities that are common to the last two terms of this proportion, and squaring each term, we have, $t : t' :: l : l'$.

Hence, also, as the number of vibrations made by the same pendulum in any given time, is reciprocally as the time of vibration, we have, by substitution,

$$\frac{1}{n} : \frac{1}{n'} :: l : l'$$

$$\text{or } n^2 : n'^2 :: l' : l.$$

In general terms, if the latitude of the place be denoted by L , the corresponding length of the second's pendulum by l , and its length at the equator by l' ; then it has been found that the length of l is expressed by the following formula, viz.

$$l = l' + 1608 \sin L.$$

By substituting for $\sin L$, its value in terms of the cosine, which is

$$\frac{1 - \cos 2L}{2},$$

the formula becomes

$$l = l' + (1608 \times \frac{1 - \cos 2L}{2}),$$

$$\text{or } l = l' + 804 (1 - \cos 2L).$$

The value of l' has been found to be 39.0265 English inches; and therefore we finally obtain

$$l = 39.1069 - 0804 \cos 2L,$$

in which formula 39.1069 is the length of the second's pendulum at 45 degrees of latitude: and when the latitude, or the value of L , is less than 45°, the latter member will be subtractive; but when this value is greater than 45°, it will be additive. In the latter case as $2L$ exceeds 90°, its cosine is negative; and consequently the product of that cosine by —0804 is positive, and must be added to 39.1069.—If we take

51° 31', which is nearly the latitude of London, as an example, the result is 39·124986 inches ; agreeing with the length found by experiments.

As the Pendulum has now been rendered so perfect as to be considered one of the best instruments for ascertaining the force of gravity at various points on the earth's surface, it will be useful to insert the following Tables, containing the principal results on this subject that have been obtained during the last and present centuries. Considerable pains have been taken by Dr. Gregory of the Royal Military Academy, to reduce the various measures to one standard. From a reference to the third column, it will readily be perceived that the standard of comparison to which all the others are referred, is the length of the Pendulum at the equator. See *Philosophical Magazine* for June 1819.

TABLE I.

Places having North Latitude.

Places.	Latitude.	Compa. length of pendulu.	Observers.	Length of Comparison = 1
Equator	0 0 0	1·00000	Bouguer	At 10°
Portobello ...	9 34 0	1·00020	Bouguer	1·000172
Pondicherry ..	11 56 0	1·00041	Gentil	
Madras	13 4 0	1·00059	Sir J. Warren	
Umatag	13 17 52	1·00032	Ciscar, &c.	At 15°
Manilla	14 35 49	1·00087	Ciscar, &c.	1·000381
Manilla	14 35 49	1·00082	Gentil	
Acapulco	16 50 49	1·00075	Ciscar, &c.	
Jamaica	19 0 0	1·00114	Campbell	
St. Domingo ..	19 27 0	1·00097	Bouguer	At 20°
Macao	22 12 0	1·00061	Ciscar, &c.	1·000666
Malta	35 54 0	1·00262	d'Angos	At 30°
Caliz	36 31 16	1·00209	Ciscar, &c.	1·001425
Monmercy	36 55 15	1·00181	Ciscar, &c.	
Formentera ...	38 59 36	1·002693	Biot, Arago, &c.	At 35°
Toulouse	41 6 0	1·00303	d'Arquier	1·001872
Egeac	44 36 45	1·003192	Biot, Mathieu	At 40°
Bordeaux	44 50 25	1·003181	Biot, Mathieu	1·002352
Clermont	45 46 13	1·003322	Biot, Mathieu	
Geneva	46 12 0	1·00263	Mallet	At 45°
Vienna	48 12 47	1·00519	Liesganig	1·002845
Paris	48 50 14	1·00352	Bouguer	
Paris	48 50 14	1·003637	Biot, Bouvard,	
Paris	48 51 38	1·00370	Borda	
Nootka	49 35 15	1·00319	Ciscar, &c.	At 50°
Gotha	50 56 8	1·00338	Zach	1·003840
Dunkirk	51 2 8	1·003821	Biot, Mathieu	
Woolwich	51 28 41	1·003756	Gregory	
London	51 30 49	1·003531	Desaguliers	At 55°
London	51 30 52	1·003835	Whitehurst, red. by Troughton	1·003818
London	51 31 8	1·003825	Kater, Ther. 62°	
Leyden	52 9 0	1·00374	Lolois	At 60°
Arengsberg ...	58 15 9	1·00406	Grischow	1·004268
Mulgrave	59 34 20	1·00466	Ciscar, &c.	
Petersburg ...	59 56 33	1·00434	Mallet	
Balta (Zetld.)	60 45 3	1·004697	Gregory	At 70°
Vust (Zetld.)	60 45 35	1·004685	Biot	1·005025
Archangel	64 33 0	1·00474	—	
Pello	66 48 0	1·00470	Maupertuis	At 80°
Ponoi	67 4 0	1·00481	Mallet	1·005519
Kola	68 54 0	1·00510	Mallet	
Spitzbergen ...	72 30 0	1·00530	Phipps, Lyons.	

TABLE II.

Places having South Latitude.

Places.	Latitude.	Compa. length of pendulu.	Observers.
Equator	0 0 0	1·00000	Bouguer
Zamboanga	6 54 27	1·00042	Ciscar, &c.
Lima	12 4 38	1·00050	Ciscar, &c.
Madagascar ..	17 40 0	1·00073	Gentil
Isle Babao	18 55 45	1·00091	Ciscar, &c.
Isle of France ..	20 10 0	1·00135	—
Port Jackson ..	33 51 20	1·00207	Ciscar, &c.
Cape of Good Hope	33 55 0	1·00205	Lacaille
Monte Video	34 54 58	1·00217	Ciscar, &c.
Conception	36 42 52	1·00242	Ciscar, &c.
Port St. Helena ..	34 29 54	1·00225	Ciscar, &c.
Port Egmont ..	51 24 5	1·00343	Ciscar, &c.

PENINSULA is any portion of land nearly surrounded by water. The term is generally applied to those parts which project into the ocean, and are joined to the main-land by an isthmus. In this sense both Africa and South America are peninsulas ; the former being connected with Asia by the isthmus of Suez, and the latter by the isthmus of Darien. Under this term, Spain and Portugal, as well as the modern Jutland are also included.

PERIHELION is that point in the orbit of either planet or comet in which it is nearest to the sun.

PERIŒCIANS are those inhabitants of the earth who live under the same parallels of latitude, but on opposite semi-circles of the first meridian. Their longitudes are consequently 180° different from each other. They have the same common seasons throughout the year, and witness the same phenomena of the heavenly bodies ; but when it is noon with the one, it is midnight with the other.

PERISCANS, the inhabitants of the frigid zones, whose shadows are successively projected in all directions.

PISCES (♈), the *Fishes*, one of the twelve signs of the Zodiac, which the sun enters about the 19th of February.

PLANESPHERES are those hemispherical maps which are projected in circles. Each generally contains half the surface of the globe, as divided by a meridian ; the one embracing the Old, and the other the New World.

PLANE OF PROJECTION is that plane upon which the different parts of the earth's surface or other figures are projected according to the laws of perspective.

PLATEAU is an elevated plain, or any high Table

land, terminated on all sides by declivities. The central parts of Asia, the middle regions of Spain, and the vast elevated lands on which Mexico, in New Spain, is situated, are all of this kind.

POINT OF VIEW, is that point in which the eye is supposed to be situated in the projection of maps, or other perspective operations. It is from this point that lines are supposed to be drawn to all the points in the spherical surface of a country, and thence to transfer it to the plane of projection.

POLAR CIRCLES are two small circles of the sphere, which encompass the frigid zones, and are $23^{\circ} 28'$ distant from the poles.

POLARITY is the property of having poles, or of turning to the poles, as that possessed by the magnetic needle, one extremity of which always points to the magnetic pole of the world.

POLE is the point on the earth's surface where it is penetrated by the axis. As this axis terminates in two opposite points, the one is the north and the other the south pole, and each is 90 degrees from the equator. If the terrestrial axis be supposed to extend to the heavens, the points of apparent intersection would be the celestial poles, about which the heavenly bodies appear to perform their revolutions.

POLE STAR is a star of the second magnitude situated in the tail of the little bear, and nearest to that point about which the celestial bodies seem to revolve.

PRIME VERTICAL is the circle which passes through the zenith and the east and west points of the horizon, and is, therefore, perpendicular to the meridian.

PROJECTION is the representation of a surface, or solid, upon a plane. For the different kinds of projection, as applied to geographical purposes, see CHAP. II. Section II; on the construction of Maps.

PROMONTORY is a portion of land projecting into the sea, the end of which is generally called a *Cape*.

Q.

QUADRANT is the fourth part of a circle, and contains 90 degrees. It is also a mathematical instrument employed for taking angles, either of the altitudes of celestial bodies or of terrestrial objects.

QUADRILATERALS, in geography, are the spaces comprised between two adjacent meridians and two parallels of latitude. They are, therefore, portions of the spherical surface, bounded by four arcs, and are employed in finding the area of a determinate portion of the earth's surface, as a country, &c. As

this is the most correct way of ascertaining the area of portions of this surface, (see Art. 36), we shall insert the following table, for facilitating the operation.

TABLE

Of the areas of spherical Quadrilaterals comprising a degree of latitude and longitude each.

Latitude.	Square Leagues.	Latitude.	Square Leagues.	Latitude.	Square Leagues.	Latitude.	Square Leagues.	Latitude.	Square Leagues.
0	399.98	15	385.45	30	344.65	45	280.56	60	196.97
1	399.86	16	383.52	31	341.05	46	275.34	61	190.86
2	399.62	17	381.48	32	337.85	47	270.23	62	184.70
3	399.25	18	379.33	33	333.55	48	265.05	63	178.48
4	398.76	19	377.05	34	329.65	49	259.78	64	172.20
5	398.16	20	374.66	35	325.64	50	254.43	65	165.87
6	397.42	21	372.16	36	321.54	51	249.00	66	159.50
7	396.58	22	369.55	37	317.34	52	243.50	67	153.07
8	395.60	23	366.82	38	313.04	53	237.93	68	146.60
9	394.65	24	363.98	39	308.65	54	232.28	69	140.08
10	393.50	25	361.03	40	304.16	55	226.56	70	133.52
11	391.97	26	357.97	41	299.50	56	220.77	71	126.92
12	390.51	27	354.82	42	294.91	57	214.92	72	120.28
13	388.94	28	351.52	43	290.15	58	209.00	73	113.60
14	387.25	29	348.14	44	285.30	59	203.01	74	106.89
15		30	345	45	280	60	200	75	100.15

R.

REFLECTION is the return or regressive motion of an elastic body after striking some other body, which converts its direct into a reflected motion. This is peculiarly exemplified by the particles of light, which, being reflected from the surfaces of bodies, makes them visible; and it is the property which bodies possess of reflecting the different kinds of rays, that renders them of different colours. Newton has shown that reflection is not caused by the rays of light striking on the bodies themselves, but by some power or quality, equally diffused over their surfaces, by which they act upon the rays, either attracting or repelling them, without any real and immediate contact. The ray which falls on the body is called the *incident ray*, and the angle it makes with the

reflecting surface, at the apparent point of contact, is called the angle of incidence. The ray on its return from the surface is called the *reflected ray*, and the angle it then forms with that surface, the angle of reflection. The principal law of Reflection is, that the angle of incidence is always *equal* to the angle of reflection.

REFLUX of the Sea, is the ebbing of the water on its return from the shore. See *TIDE*.

REFRACTION is the variation in the direction of the rays of light, in passing obliquely from one medium to another of a different density. It is this property of the atmosphere that causes all the heavenly bodies to appear more elevated than they really are, and which, therefore, renders a correction necessary, before their observed altitudes can be employed in the computation of other quantities. Refraction is the greatest at the horizon, and nothing at the zenith, varying at all altitudes between these extremes. At equal altitudes, the sun, moon, and stars take all the same refraction; for then the incident rays have the same inclinations, and the sines of the refracted angles are as the sines of these inclinations. Having explained the method of making these corrections when treating on this subject in Chapter II., we shall only subjoin the following Table of the Refraction, corresponding to different observed altitudes of the heavenly bodies. The quantities in this Table have been calculated from the series given by Laplace in his great work, the *Mécanique Céleste*. The formula deduced from this series are,

$$\tan. n = \sin. 2 nR. \tan. z;$$

$$\text{and } \tan. n = \tan. nR. \tan. \frac{1}{2} n$$

where $n = 378$, and $nR = 6867'$. When z , which denotes the zenith distance, is given, the first equation will give the value of n ; and then the second equation will give that of r , the refraction in seconds of a degree.

The following table is calculated to a medium pressure and temperature of the atmosphere; or to 29.92 inches of the barometer, and 57.2 degrees of Fahrenheit's thermometer. When great accuracy is required, slight corrections are, therefore, necessary for the difference of temperature and pressure; as the air is condensed by cold, and rarified by heat, and consequently refraction is greater in cold countries than in hot ones. It is also greater in cold weather than in hot, and in the morning than in the evening, at the same place; because in the latter instance, the air is condensed by the coldness of the night, and rarified by the heat of the day. It is likewise subject to a

slight variation at the same time of the day, even in the finest weather. But the greatest of these anomalies is confined to a few seconds, and is often not more than one or two

Table of Refraction.

Appar. Alt.	Refrac- tion.	Appar. Alt.	Refrac- tion.	Appar. Alt.	Refrac- tion.	Appar. Alt.	Refrac- tion.
0	0.33	7.5	0.5	22	21.2	25	56.0
10	21	17	10.8	21	22.2	24	57.0
20	29	33	20.7	20	23.2	14	58.0
30	27	57	30.7	18	24.2	8	59.0
40	26	29	40.7	16	25.2	2	60.0
50	25	7	50.7	15	26.1	51	61.0
1	0.25	50.7	0.7	14	27.1	52	62.0
10	22	40	10.7	9	28.1	48	63.0
20	21	35	20.7	0	29.1	47	64.0
30	20	31	30.6	51	30.1	50	65.0
40	19	38	40.6	44	31.1	35	66.0
50	18	45	50.6	36	32.1	32	67.0
2	0.17	57.8	0.6	28	33.1	28	68.0
10	17	12	10.6	21	34.1	25	69.0
20	16	16	20.6	14	35.1	22	70.0
30	15	50	30.6	7	36.1	18	71.0
40	15	19	40.6	1	37.1	16	72.0
50	14	39	50.6	54	38.1	13	73.0
3	0.14	6.9	0.5	48	39.1	11	74.0
10	13	36	10.5	41	40.1	8	75.0
20	13	7	20.5	35	41.1	6	76.0
30	12	41	30.5	31	42.1	4	77.0
40	12	15	40.5	25	43.1	2	78.0
50	11	51	50.5	20	44.0	59	79.0
4	0.11	29.10	0.5	15	45.0	57	80.0
10	11	7	11.4	47	46.0	57	81.0
20	10	47	12.4	24	47.0	54	82.0
30	10	28	13.4	4	48.0	52	83.0
40	10	10	14.4	46	49.0	5	84.0
50	9	53	15.4	31	50.0	48	85.0
5	0.9	37	16.4	18	51.0	46	86.0
10	9	21	17.4	6	52.0	47	87.0
20	9	6	18.4	57	53.0	45	88.0
30	8	52	19.4	47	54.0	43	89.0
40	8	38	20.4	36	55.0	40	90.0
50	8	26	21.4	28	56.0	39	

REVOLUTION is a term applied to denote the motion of a planet or satellite in its orbit. Thus the revolution of the earth about the sun is completed in a year, or nearly 365 $\frac{1}{4}$ days.

RIGHT ASCENSION. See *ASCENSION*.

RIVER is a considerable body of water collected in the more elevated parts of the land, and descending to the lower, either discharging itself into another river, or flowing into the sea. As the Thames, the Seine, the Ganges, or the Marañon, all of which pour their collective tributes into the bosom of the deep. The courses of rivers and streams always mark the greatest declivities of the land over which they flow, and their magnitude is generally proportional to the height and distance of their sources.

ROTATION implies the motion of a planet about its axis; and its duration is equal to the length of a natural day. Thus the earth make a complete rotation every 24 hours.

S.

SAGITTARIUS, (♐) the *Archer*, one of the twelve signs of the zodiac, and that into which the sun enters about the 23d of November.

SAVANNA is a term by which the vast extended plains in America are frequently denoted. See **STEPPE**.

SCORPIO, (♏) the *Scorpion*, one of the twelve signs of the zodiac, and that which the sun enters on the 24th of October.

SEA, in its general extent, implies the whole of that vast body of water which covers a great part of the terrestrial globe; and in this sense it is synonymous with *ocean*. For the principal circumstances respecting which, see **CHAP. III.** It is, however, often used to denote a particular part of this fluid, in conjunction with some other qualifying term; as the *Mediterranean Sea*, the *Baltic Sea*, &c.

SEXAGESIMAL is a term employed to denote the division of the circle into 60 equal parts, or degrees, and these again into sixty minutes, &c. This is the ancient division, and that which is generally used in this country; but the French lately adopted the decimal division: that is, they divided the quadrant into 100 degrees, or *grades*, each of these is subdivided into 100 equal parts, instead of 60, and so on. Each degree in the new division is therefore equal to $\frac{2}{3}$ ths of a degree of the old; each minute of the former equal to $\frac{4}{5}$ ths of the latter; and each second of the one equal to $\frac{27}{25}$ ths of the other. They are, therefore, to each other as the first, second, and third powers of $\frac{2}{3}$ ths; or, as 1, ($\frac{4}{9}$), and ($\frac{8}{27}$).

SIDERIAL is something relating to the stars, as sidereal year, sidereal revolution, &c. See **YEAR** and **TIME**.

SIGNS, in astronomy, are the twelve constellations of the zodiac, through which the sun apparently passes in the twelve months of the year; these, in their order, are *Aries*, *Taurus*, *Gemini*, *Cancer*, *Leo*, *Virgo*, *Libra*, *Scorpio*, *Sagittarius*, *Capricornus*, *Aquarius*, and *Pisces*. See the respective words.

SOLAR SYSTEM is that assemblage of planets and satellites which have the sun for their common centre, and which revolve about him, or rather about the centre of gravity of the system. For the number and order of the bodies which constitute this system, see the beginning of **CHAP. II.** page *h*.

SOLARICE is that point of time in which the sun is at his greatest distance from the equator, or when he is in those points of the ecliptic which touch the tropics of *Cancer* and *Capricorn*. There are,

therefore, two solstices in the year; the one when the day is the longest, and the other when it is the shortest.

SOLSTITIAL Points are those points of the ecliptic which are occupied by the sun at the *solstices*. They are the first points of *Cancer* and *Capricorn*; and, therefore, diametrically opposite to each other.

SOUTH is one of the cardinal points of the compass, and that which is opposed to the north. It is that point in which the meridian of any place intersects the horizon, and is consequently equally distant from the east and west points, where the same circle is intersected by the equator.

SPHERE, in geography, generally implies the relative positions of the equator and the horizon, at any point on the earth's surface. Or, as the horizon varies with the position of the observer, it implies the relation of his situation with respect to the equator. As there can only be three distinct positions of these two circles, so there are said to be three kinds of spheres. When the equator and horizon intersect each other at right angles, the position of the sphere is called a *right sphere*, which can be the case with those who live at the equator only. When the equator coincides with the horizon, and the parallels of latitude are parallel to it, the position is denominated a *parallel sphere*: this can only take place at the poles. In all other cases, the equator and horizon intersect each other obliquely, and then the position is called an *oblique sphere*.

STADIUM is an ancient itinerary measure of different lengths; for which see **CHAP. II.** and the article **MEASURES**.

STEPPEs are plains of great extent, and wholly destitute of the larger species of vegetables. This term is generally employed to denote plains of this kind in Europe and Asia, while the words *Savanna* and *Pampas* signify the same thing in America.

T.

TAURUS, (♉) the *Bull*, is one of the twelve signs of the zodiac, and the second in order, which the sun enters about the 20th of April.

TEMPERATURE is the term by which the heat of the atmosphere is generally denoted. This not only varies at different places, but at the same place at different times. Having treated on this subject in **Chapter III.** and given a variety of results from observation; and also stated some particulars under the article **CLIMATE**, we shall only add a few remarks, and subjoin a table of the mean temperature for

every degree of latitude, from the *Supplement to the Encyclopædia Britannica*. Art. CLIMATE.

From a comparison of a great number of meteorological observations made on distant points of the globe, the celebrated professor Mayer, of Gottingen, was enabled to discover a law by which all these observations could be connected together, and either the latitude or the mean temperature of the year found from each other.

This formula, as given by Mr. Playfair in his *Outlines of Natural Philosophy*, is as follows. Let L be the latitude of the place whose temperature t is required, M the mean temperature of the parallel of 45° , and $M + E$ the mean temperature of the equator,

$$\text{Then } t = M + E \cos. 2L.$$

According to the observations collected by Mayer, $M = 58^\circ$, $M + E = 85^\circ$, and consequently $E = 27^\circ$. By substituting these numbers the formula becomes,

$$t = 58^\circ + 27^\circ \times \cos. 2L.$$

When the latitude exceeds 45° , $2L$ is greater than 90° , so that $\cos. 2L$ becomes negative, or t is less than 58° , the formula may be thus expressed at length. Multiply the cosine of twice the given latitude by 27, and add the product to 58; the sum will be the mean temperature of that latitude at the level of the sea. The results found by this rule agree very nearly with those obtained by observation.

Round the pole the mean temperature may be assumed at the precise limit of freezing, since the fields of ice accumulated in that forlorn region seem at the present period neither to increase nor diminish; but under the equator the medium heat at the level of the sea is found to be 84.2° of Fahrenheit, or 29 centesimal degrees, the division of the thermometric scale, which is best suited to philosophical purposes. At the middle point, or latitude 45° , the temperature is likewise the exact mean, or $14\frac{1}{2}^\circ$ centigrade. From that centre the heat diminishes rapidly northwards, and increases with equal rapidity towards the south. Hence the mean temperature of any place, at the level of the sea, is calculated in centesimal degrees, by multiplying the square of the cosine of the latitude into the constant number 20; or it is found by multiplying the supplemental versed sine of double the latitude into $14\frac{1}{2}^\circ$. The variation of temperature for each degree of latitude is hence denoted centesimally, with very great precision, by half the sine of double the latitude; being, in fact, this quantity diminished in the ratio of 58, the double of 29, to 57.3, the length of an arc equal to

radius. From these data the following table is computed; in which are likewise annexed the corresponding degrees of Fahrenheit's scale."

TABLE.

Of the mean Temperature to every Degree of Latitude.

Latitude.	Centesimal.	Fahrenheit.	Latitude.	Centesimal.	Fahrenheit.
0	29.00	84.2	46	13.99	57.2
1	28.99	84.2	47	13.99	56.3
2	28.96	84.1	48	12.98	55.4
3	28.92	84.0	49	12.98	54.5
4	28.86	83.9	50	11.98	53.6
5	28.78	83.8	51	11.99	52.7
6	28.68	83.6	52	10.99	51.8
7	28.57	83.4	53	10.99	50.9
8	28.44	83.2	54	10.02	50.0
9	28.29	82.9	55	9.54	49.2
10	28.13	82.6	56	9.07	48.3
11	27.95	82.3	57	8.60	47.5
12	27.75	82.0	58	8.14	46.6
13	27.53	81.6	59	7.69	45.8
14	27.30	81.1	60	7.25	45.0
15	27.06	80.7	61	6.82	44.3
16	26.80	80.2	62	6.39	43.5
17	26.52	79.7	63	5.98	42.8
18	26.28	79.2	64	5.57	42.0
19	25.93	78.7	65	5.18	41.3
20	25.61	78.1	66	4.80	40.6
21	25.28	77.5	67	4.43	40.0
22	24.93	76.9	68	4.07	39.3
23	24.57	76.2	69	3.72	38.7
24	24.20	75.6	70	3.39	38.1
25	23.82	74.9	71	3.07	37.5
26	23.43	74.2	72	2.77	37.0
27	23.02	73.5	73	2.48	36.5
28	22.61	72.7	74	2.20	36.0
29	22.18	71.9	75	1.94	35.5
30	21.75	71.1	76	1.70	35.1
31	21.31	70.3	77	1.47	34.6
32	20.86	69.5	78	1.25	34.2
33	20.40	68.7	79	1.05	33.9
34	19.93	67.9	80	0.86	33.6
35	19.46	67.0	81	0.71	33.3
36	18.98	66.2	82	0.55	33.0
37	18.50	65.5	83	0.43	32.8
38	18.01	64.7	84	0.32	32.6
39	17.50	63.9	85	0.22	32.4
40	17.01	62.6	86	0.14	32.3
41	16.52	61.7	87	0.08	32.2
42	16.02	60.8	88	0.04	32.1
43	15.52	59.9	89	0.01	32.0
44	15.01	59.0	90	0.00	32.0
45	14.50	58.1			

THERMOMETER is a philosophical instrument by which the temperatures of the air and other substances are ascertained. The thermometer is founded

upon the expansion of fluids by means of heat; and now generally consists of a narrow glass tube partly filled with mercury. The bottom of this tube communicates with a bulb filled with the same fluid, and has the upper part a vacuum. As the heat of the air or other body to which it is applied varies, the mercury expands or contracts, and therefore either rises or falls in the tube. The extent of these variations is ascertained by a scale applied to the frame in which the tube is fixed. This scale, however, is not the same in all thermometers, but varies according to the inventor, the country where it is used, or the purpose to which it is applied. The three following are those which are principally employed for general purposes.

Fahrenheit's thermometer is generally used in this country. The freezing point on its scale is fixed at 32° , and the boiling point of water under the medium pressure, at 212° ; and consequently the intermediate space contains 180° .

Reaumur's thermometer, which has long been used in France and various other parts of the Continent, has the freezing point at 0 and the boiling point at 80° , and which is, therefore, the number of degrees between these points.

Celsius's thermometer, or the Centigrade thermometer, was, for a considerable time, used chiefly in Sweden, where it was invented; but has recently been adopted in France and other parts of the continent, and is very convenient for all philosophical purposes. The scale commences at *Zero*, and the boiling point is at 100° .

It would greatly simplify our conceptions of physical circumstances, as well as the calculations of philosophy, if one of these were generally adopted. However, the temperatures, ascertained by any of them, may be readily reduced to the scale of the others by the following simple theorems.—Let *F* denote the degrees on Fahrenheit's scale, *C* those of the Centigrade, or Centesimal thermometer, and *R* those on Reaumur's; all corresponding to the same absolute temperature; then,

I. To convert degrees of the Centigrade thermometer into Fahrenheit's, and the contrary.

$$1. F = \frac{9}{5} C + 32. \quad 2. C = \frac{5}{9} (F - 32).$$

II. To convert degrees of Reaumur's scale into those of Fahrenheit's, and vice versa.

$$1. F = \frac{9}{4} R + 32. \quad 2. R = \frac{4}{9} (F - 32).$$

III. To convert degrees of Reaumur's to those of the Centesimal thermometer, and reciprocally.

$$1. C = \frac{5}{4} R. \quad 2. R = \frac{4}{5} C.$$

Thus, for example, 20° on the Centigrade scale is, by the first theorem, equal to 68° on Fahrenheit's; and the same number on Reaumur's is, by the second theorem, equal to 77° on Fahrenheit's scale. Also 20° degrees on Reaumur's thermometer is equal to 25° of the Centesimal, and the contrary, in each of these cases.

TIDES are the periodic oscillations of the sea; for an explanation of which, see CHAP. III.

TIME, in the sense in which astronomers employ it, is a measured portion of duration; and these portions are determined by the apparent revolutions of the heavenly bodies; one complete rotation of the earth on its axis being denominated an astronomical day. As this motion is uniform, each part of the equator passes over equal spaces in equal times, and therefore time becomes a convenient measure of longitude, which may consequently be expressed either in time, or in degrees and minutes; and the one species of measure may be converted into the other, at the rate of 15 degrees to an hour, in the following manner.

1. To reduce degrees, minutes, &c. into Time.

Multiply the seconds, minutes, and degrees, by 4, and reckon the seconds of the product for thirds, the minutes for seconds, and the degrees for minutes.

Then, if the thirds be divided by 6, the quotient will be the decimal of a second; thus $12^{\text{th}} \div 6 = 2$. the required time is therefore equal to $2^{\text{h}} 53^{\text{m}} 10.2^{\text{s}}$.

2. To reduce time into degrees, minutes, &c. of space.

The most expeditious method of converting time into degrees, minutes, &c., and one which is applicable in all cases, is to divide the minutes, seconds, &c. by 4, reckoning the minutes in the quotient as degrees, the seconds as minutes, &c., and then add the product arising from multiplying 15 by the number of hours in the given time, to the degrees in the quotient. This method is not only expeditious, but possesses the advantage of not requiring the use of any table. Thus, if it were required to find the degrees, minutes, &c. answering to $9^{\text{h}} 24^{\text{m}} 55.4^{\text{s}}$ of time.

$$\text{First, } 4 \times 6 = 24^{\text{th}}$$

$$\text{Then dividing by } 4) 24^{\text{th}} 55.4^{\text{s}} 24^{\text{th}}$$

$$\text{Quotient } 6^{\circ} 13' 51''$$

$$\text{Then } 15 \times 9 = 135$$

$$\text{Result required } 141^{\circ} 13' 51''$$

It may be observed, that as the multiplier for converting the decimals of a second into thirds is always 6, and the number of hours generally less than 12, these multiplications may be performed mentally, which will greatly facilitate the whole operation.

These reductions may be made with the utmost ease and accuracy by the following tables, independently of such calculations. The heading sufficiently explains their use. The points opposite the *upper* part of the figures, imply that the decimals *circulate*, or are to be repeated as often as necessary. Thus, 0.06 is 0.06666, &c. and 0.13 is 0.13333, &c. When the point is opposite the *lower* part of the figures, it signifies that the value is complete; as 0.2. is only two-tenths.

TABLES

For converting degrees, minutes, and seconds of
LONGITUDE into TIME.

TABLE I.—FOR DEGREES.

Degres.	TIME.		rees.	TIME.	
	Decimals of an hour.	Hrs.Min.		Decimals of an hour.	Hrs.Min.
1	0.06	0 4	48	3.2	3 12
2	0.13	0 8	49	3.26	3 16
3	0.2	0 12	50	3.3	3 20
4	0.26	0 16	51	3.4	3 24
5	0.3	0 20	52	3.46	3 28
6	0.4	0 24	53	3.53	3 32
7	0.46	0 28	54	3.6	3 36
8	0.53	0 32	55	3.6	3 40
9	0.6	0 36	56	3.73	3 44
10	0.6	0 40	57	3.8	3 48
11	0.73	0 44	58	3.86	3 52
12	0.8	0 48	59	3.93	3 56
13	0.86	0 52	60	4.00	4 0
14	0.93	0 56	61	4.06	4 4
15	1.00	1 0	62	4.13	4 8
16	1.06	1 4	63	4.2	4 12
17	1.13	1 8	64	4.26	4 16
18	1.2	1 12	65	4.3	4 20
19	1.26	1 16	66	4.4	4 24
20	1.3	1 20	67	4.46	4 28
21	1.4	1 24	68	4.53	4 32
22	1.46	1 28	69	4.6	4 36
23	1.53	1 32	70	4.6	4 40
24	1.6	1 36	71	4.73	4 44
25	1.6	1 40	72	4.8	4 48
26	1.73	1 44	73	4.86	4 52
27	1.8	1 48	74	4.93	4 56
28	1.86	1 52	75	5.00	5 0
29	1.93	1 56	76	5.06	5 4
30	2.00	2 0	77	5.13	5 8
31	2.06	2 4	78	5.2	5 12
32	2.13	2 8	79	5.26	5 16
33	2.2	2 12	80	5.3	5 20
34	2.26	2 16	81	5.4	5 24
35	2.3	2 20	82	5.46	5 28
36	2.4	2 24	83	5.53	5 32
37	2.46	2 28	84	5.6	5 36
38	2.53	2 32	85	5.6	5 40
39	2.6	2 36	86	5.73	5 44
40	2.6	2 40	87	5.8	5 48
41	2.73	2 44	88	5.86	5 52
42	2.8	2 48	89	5.93	5 56
43	2.86	2 52	90	6.00	6 0
44	2.93	2 56	180	12.00	12 0
45	3.00	3 0	270	18.00	18 0
46	3.06	3 4	360	24.00	24 0
47	3.13	3 8			

TABLE II.

FOR MINUTES AND SECONDS.

In the fifth column of this table, the right hand figures which are separated by a small space and followed by a point opposite the upper part of the last figure, are repetends, and are to be repeated if necessary. Thus, in the first line, 0.0000 185. is 0.0000 185185, &c. Those that are complete are marked as before.

Min. of a Degr.	TIME.		Sec. of a Deg.	TIME.	
	Decimals of an hour.	Min. Sec.		Decimals of an hour.	Sec.
1	0.001	0 4	1	0.0000 185.	0.06
2	0.002	0 8	2	0.0000 370.	0.13
3	0.003	0 12	3	0.0000 5	0.2
4	0.004	0 16	4	0.0000 740.	0.26
5	0.005	0 20	5	0.0000 925.	0.3
6	0.006	0 24	6	0.0001	0.4
7	0.007	0 28	7	0.0001 296.	0.46
8	0.008	0 32	8	0.0001 481.	0.53
9	0.01	0 36	9	0.0001 6	0.6
10	0.01	0 40	10	0.0001 851.	0.6
11	0.012	0 44	11	0.0001 037.	0.73
12	0.013	0 48	12	0.0001 2	0.8
13	0.014	0 52	13	0.0001 407.	0.86
14	0.015	0 56	14	0.0002 592.	0.93
15	0.016	1 0	15	0.0002 7	1
16	0.017	1 4	16	0.0002 962.	1.06
17	0.018	1 8	17	0.0003 148.	1.13
18	0.02	1 12	18	0.0003	1.2
19	0.021	1 16	19	0.0003 518.	1.26
20	0.02	1 20	20	0.0003 703.	1.3
21	0.023	1 24	21	0.0003 8	1.4
22	0.024	1 28	22	0.0004 074.	1.46
23	0.025	1 32	23	0.0004 259.	1.53
24	0.026	1 36	24	0.0004 4	1.6
25	0.027	1 40	25	0.0004 629.	1.6
26	0.028	1 44	26	0.0004 814.	1.73
27	0.03	1 48	27	0.0005	1.8
28	0.031	1 52	28	0.0005 185.	1.86
29	0.032	1 56	29	0.0005 370.	1.93
30	0.03	2 0	30	0.0005	2
31	0.034	2 4	31	0.0005 740.	2.06
32	0.035	2 8	32	0.0005 925.	2.13
33	0.036	2 12	33	0.0006 1	2.2
34	0.037	2 16	34	0.0006 296.	2.26
35	0.038	2 20	35	0.0006 481.	2.3
36	0.04	2 24	36	0.0006	2.4
37	0.041	2 28	37	0.0006 851.	2.46
38	0.042	2 32	38	0.0007 037.	2.53
39	0.043	2 36	39	0.0007 2	2.6
40	0.04	2 40	40	0.0007 407.	2.6
41	0.045	2 44	41	0.0007 592.	2.73
42	0.046	2 48	42	0.0007	2.8
43	0.047	2 52	43	0.0007 962.	2.86
44	0.048	2 56	44	0.0008 148.	2.93
45	0.05	3 0	45	0.0008 3	3
46	0.051	3 4	46	0.0008 518.	3.06
47	0.052	3 8	47	0.0008 703.	3.13
48	0.053	3 12	48	0.0008	3.2
49	0.054	3 16	49	0.0009 074.	3.26
50	0.05	3 20	50	0.0009 259.	3.3
51	0.056	3 24	51	0.0009 4	3.34
52	0.057	3 28	52	0.0009 629.	3.46
53	0.058	3 32	53	0.0009 814.	3.53
54	0.06	3 36	54	0.001	3.6
55	0.061	3 40	55	0.0010 185.	3.6
56	0.062	3 44	56	0.0010 370.	3.73
57	0.063	3 48	57	0.0010 5	3.8
58	0.064	3 52	58	0.0010 740.	3.86
59	0.065	3 56	59	0.0010 925.	3.93
60	0.06	4 0	60	0.001	4.00

TABLES

For Converting Hours, Minutes, and Seconds of Time
into degrees, minutes, and seconds of Longitude.

TABLE I.

Hours.	Deg.	Hours.	Deg.	Hours.	Deg.	Hours.	Deg.
1	15	7	105	13	195	19	285
2	30	8	120	14	210	20	300
3	45	9	135	15	225	21	315
4	60	10	150	16	240	22	330
5	75	11	165	17	255	23	345
6	90	12	180	18	270	24	360

TABLE II.

Time. Mi- nutes.	Longitude.		Time. Se- conds	Longitude.	
	Deg. and Decimals	deg. min.		Deg. and Decimals.	min. sec.
1	0°25.	0 15	1	0°00416	0 15
2	0°5.	0 30	2	0°0083	0 30
3	0°75.	0 45	3	0°0125	0 45
4	1°00.	1 0	4	0°016	1 0
5	1°25.	1 15	5	0°02083	1 15
6	1°5.	1 30	6	0°025	1 30
7	1°75.	1 45	7	0°02916	1 45
8	2°00.	2 0	8	0°03	2 0
9	2°25.	2 15	9	0°0375	2 15
10	2°5.	2 30	10	0°0416	2 30
11	2°75.	2 45	11	0°04583	2 45
12	3°00.	3 0	12	0°05	3 0
13	3°25.	3 15	13	0°05416	3 15
14	3°5.	3 30	14	0°0583	3 30
15	3°75.	3 45	15	0°0625	3 45
16	4°00.	4 0	16	0°06	4 0
17	4°25.	4 15	17	0°07083	4 15
18	4°5.	4 30	18	0°075	4 30
19	4°75.	4 45	19	0°07916	4 45
20	5°00.	5 0	20	0°083	5 0
21	5°25.	5 15	21	0°0875	5 15
22	5°5.	5 30	22	0°0916	5 30
23	5°75.	5 45	23	0°09583	5 45
24	6°00.	6 0	24	0°1	6 0
25	6°25.	6 15	25	0°10416	6 15
26	6°5.	6 30	26	0°1083	6 30
27	6°75.	6 45	27	0°1125	6 45
28	7°00.	7 0	28	0°116	7 0
29	7°25.	7 15	29	0°12083	7 15
30	7°5.	7 30	30	0°125	7 30
31	7°75.	7 45	31	0°12916	7 45
32	8°00.	8 0	32	0°13	8 0
33	8°25.	8 15	33	0°1375	8 15
34	8°5.	8 30	34	0°1416	8 30
35	8°75.	8 45	35	0°14583	8 45
36	9°00.	9 0	36	0°15	9 0
37	9°25.	9 15	37	0°15416	9 15
38	9°5.	9 30	38	0°1583	9 30
39	9°75.	9 45	39	0°1625	9 45
40	10°00.	10 0	40	0°16	10 0
41	10°25.	10 15	41	0°17083	10 15
42	10°5.	10 30	42	0°175	10 30
43	10°75.	10 45	43	0°17916	10 45
44	11°00.	11 0	44	0°183	11 0
45	11°25.	11 15	45	0°1875	11 15
46	11°5.	11 30	46	0°1916	11 30
47	11°75.	11 45	47	0°19583	11 45
48	12°00.	12 0	48	0°2	12 0
49	12°25.	12 15	49	0°20416	12 15
50	12°5.	12 30	50	0°2083	12 30
51	12°75.	12 45	51	0°2125	12 45
52	13°00.	13 0	52	0°216	13 0
53	13°25.	13 15	53	0°22083	13 15
54	13°5.	13 30	54	0°225	13 30
55	13°75.	13 45	55	0°22916	13 45
56	14°00.	14 0	56	0°23	14 0
57	14°25.	14 15	57	0°2375	14 15
58	14°5.	14 30	58	0°2416	14 30
59	14°75.	14 45	59	0°24583	14 45
60	15°00.	15 0	60	0°25	15 0

Example. 1. Let it be required to reduce 5h. 53m.
3s. into degrees, &c.

Take successively,

For 5h.....75°

For 0 53m 13 15'

For 0 0 3s..... 45"

Degrees, &c. required. Sum 88° 15' 45"

Example 2. Let it be required to reduce 70° 30' 24"
into time.

Take successively,

For 70°..... 4h. 40m.

For 0 30' 0 2

For 0 0 24" .. 0 0 1.6s.

Time required. Sum 4h. 42m. 1.6s.

TRANSIT is the passage of any of the heavenly bodies over the meridian, or before any other of the celestial bodies; as the transits of Venus and Mercury over the sun's disk.

TROPICS are the two parallels of latitude which limit the torrid zone, and are each 23° 28' from the equator. That on the north side being the tropic of Cancer, and the other the tropic of Capricorn.

TWILIGHT is that faint light between perfect day and complete night. Twilight is occasioned by the atmosphere refracting the rays of the sun, after he has descended below the horizon. Its duration, therefore, varies not only with the latitude of the place, but also with the time of the year. Twilight continues till the sun is about 18 degrees below the horizon; but the time of his passage through this space is different according to his inclination to the horizon. It is, therefore, the shortest at the equator at the time the sun is in the equinoxes. The calculation of twilight constitutes a problem in spherical trigonometry, in which the three sides of a triangle, are given to find an angle. The given quantities are the complement of the latitude, the sun's polar distance, and his zenith distance, which is always 108°; viz 90° from the zenith to the horizon, and 18° below this latter circle. If, for instance, we take May 1st, at London, as an example, the latitude being 51° 32' and the declination 15° 12' their complements are 38° 28', and 74° 48' and the calculation gives 148° 57', or 9h. 55m. 48s. before noon for the beginning of morning twilight, or the same time after noon for the end of evening twilight. Consequently by subtracting the complement of the sun's rising in the one case, and the time of his setting in the other, the duration of

twilight will be obtained.—The following Table shows its continuance for various latitudes and times of the year; and in which *c d* signifies constant day; *c n* constant night, and *w n* twilight the whole night.

TABLE
Of the Duration of Twilight.

Latitude	0°	10°	20°	30°	40°	45°	50°	52½°
☉ En- ters ☿	h m	h m	h m	h m	h m	h m	h m	h m
☿	1 18	1 21	1 28	1 41	2 8	2 39	w n	w n
♈	1 16	1 19	1 25	1 36	1 58	2 19	3 w	n n
♉	1 13	1 15	1 20	1 28	1 43	1 55	2 12	2 25
♊	1 12	1 13	1 17	1 24	1 35	1 44	1 55	2 2
♋	1 13	1 14	1 18	1 24	1 35	1 43	1 54	2 0
♌	1 16	1 17	1 21	1 28	1 40	1 49	2 12	8
♍	1 18	1 19	1 23	1 30	1 43	1 53	2 6	15
Latitude	55°	60°	65°	70°	75	80°	85°	90
☉ En- ters ☿	h m	h m	h m	h m	h m	h m	h m	h m
☿	w n	w n	w n	c d	c d	c d	c d	c d
♈	w n	w n	w n	c d	c d	c d	c d	c d
♉	2 41	3 55	w n	w n	w n	c d	c d	c d
♊	2 10	2 33	3 8	4 18	w n	w n	w n	w n
♋	2 8	2 27	2 56	8 41	5 2	17 32	w n	w n
♌	2 18	2 43	3 26	11 38	11 14	10 32	8 38	c n
♍	2 26	2 57	4 4	10 24	9 30	7 46	c n	c n

V.

VALE signifies an extent of low country, lying between ranges of higher ground. Vale and valley, in the English language have distinct and appropriate meanings. The word *valley* is the diminutive of vale; in a valley the low grounds are narrow, seldom exceeding a mile in width, and are generally included between high steep banks. Dale is often used for valley in the north of England and Scotland.

VERTICAL (*prime*), *see* PRIME VERTICAL.

VIRGO (♍), the *Virgin*, is one of the twelve signs of the zodiac, which the sun enters about the 24th of August.

VOLCANO is a mountain which emits fire, smoke, or ignited matter. These rank among the most magnificent and terrific phenomena of Nature; but any particular description is necessarily included in that of the country where they are situated. The number of Volcanos on the globe has already been stated at page *civ*, and the following list contains a few of the principal of these mountains that have received particular names, and where the fire is the most active.

Height in Feet.

Avatsha	<i>Kamschatka</i>	9600
Cotopaxi	<i>S. America</i>	18,891
Etna	<i>Sicily</i>	10,954
Hecla	<i>Iceland</i>	5,000
Pico di Orizabo	<i>N. Spain</i>	17,371
Pinchinca	<i>Andes</i>	15,939
Popocatepetl	<i>N. Spain</i>	17,710
Sangai	<i>Andes</i>	17,136
Stromboli	<i>Italian Islands</i>	
Temanpaya.. .. .	<i>Canary Isles</i>	
Tunguragua.. .. .	<i>Andes</i>	16,500
Vesuvius	<i>Naples</i>	3,900
Volcan de Colima	<i>N. Spain</i>	9,186
Volcan de Jorullo	<i>ditto</i>	4,268
Volcano	<i>Bourbon</i>	7,680
Volcano of Duida	<i>S. America</i>	6,400

W.

WIND is a current of the atmosphere, on the motions of which we have already treated at page *cxv* of this INTRODUCTION; and we shall therefore only subjoin the following small Table which was drawn up by Mr. *Smeaton*. It will afford the reader a good idea of the *velocity* and *force* of the wind under the most common circumstances.

TABLE.

Of the Velocity and Force of Wind.

Miles per hour.	Feet per second.	Perpendicular force on one square foot, in avoirdupoise pounds and parts.
1	1.47	.005 Hardly perceptible.
2	2.93	.020 } Just perceptible.
3	4.40	.044 }
4	5.87	.079 } Gently pleasant.
5	7.33	.123 }
10	14.67	.492 } Pleasant, brisk.
15	22.00	1.107 }
20	29.34	1.968 } Very brisk.
25	36.67	3.073 }
30	44.01	4.429 } High wind.
35	51.34	6.027 }
40	58.68	7.873 } Very high wind.
45	66.01	9.963 }
50	73.35	12.300 Storm, or tempest.
60	88.02	17.715 Great storm.
80	117.36	31.496 Hurricane.
100	146.70	49.200 } Hurricane, that tears up trees, and carries buildings before it.

Y.

YEAR is that portion of time which the sun occupies in passing through the twelve signs of the zodiac; or

rather which the earth requires to complete one revolution about the sun. The mean solar year, according to the observations of the best modern astronomers, contains 365 days, 5 hours, 48 minutes, 48 seconds. The time assumed by the authors of the Gregorian calendar, is 365 days, five hours, 49 minutes. But in the *civil* or popular account, this year only contains 365 days; except every 4th year, which has 366.

The solar year is either astronomical or civil. The *Astronomical solar year* is that which is accurately determined by astronomical observations; and is either tropical or sidereal.

The *Tropical or natural year* is the time which the sun occupies in completing the whole circle of the zodiac; and its duration as stated above. The *sidereal year* is the time which the sun requires to pass from any fixed star to his return to it again; which consists of 365 days, 6 hours, 9 minutes, and 11 seconds; being 20m. 29s. longer than the true solar year.

Z.

ZENITH is the vertical point in the heavens, or that which is directly over our heads. It is considered as

the pole of the horizon, because it's every way 90 degrees distant from that circle.

Zenith distance is the complement of the altitude of a heavenly body.

ZODIAC is a broad circle or belt in the heavens, in which all the planets perform their revolutions. It is about 18 degrees in breadth, lying equally on both sides of the ecliptic. It therefore cuts the equator in the same angle as the ecliptic, and is supposed to be divided into twelve equal parts, called signs of the zodiac, each consisting of 30 degrees. See *Aries, Taurus, &c.*

ZONE is a division of the earth's surface made by two parallel circles. There are five of these zones generally acknowledged in geography: viz The torrid zone, comprised between the tropics of Cancer and Capricorn; it therefore lies on both sides of the equator, and is $46^{\circ} 56'$ in breadth. The two frigid zones encompass the poles, and are each $23^{\circ} 28'$ in breadth; and the temperate zones are situated between the torrid and frigid zones in each hemisphere, and are each $43^{\circ} 4'$ in breadth. For the superficial extent, and other properties of these zones see pages *lxii* and *c.*



REMAINS OF ANCIENT GRECIAN TEMPLES IN SICILY.

A

NEW AND COMPREHENSIVE SYSTEM

OR

MODERN GEOGRAPHY,

MATHEMATICAL, PHYSICAL, POLITICAL, AND COMMERCIAL;

COMPRISING

A PERSPICUOUS DELINEATION

OF

The Present State of the Globe.

WITH ITS INHABITANTS & PRODUCTIONS;

PRECEDED BY THE HISTORY OF THE SCIENCE; INTERSPERSED WITH STATISTICAL AND SYNOPTICAL
TABLES; AND ACCOMPANIED WITH A SERIES OF COLOURED MAPS, A GREAT VARIETY
OF APPROPRIATE VIEWS, AND NUMEROUS OTHER ENGRAVINGS ILLUSTRATIVE
OF THE MANNERS, CUSTOMS, AND COSTUMES OF NATIONS.

BY

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IN TWO VOLUMES.

VOL. I. CONTAINING THE INTRODUCTION—AND EUROPE.

LONDON:

HENRY FISHER, SON, & P. JACKSON, 38, NEWGATE STREET.

1837.

PREFACE.

IT would be a superfluous labour to expatiate upon the value and importance of Geography, as a Science, to enforce its utility, as a Branch of Education, or to urge its claims, as a necessary acquisition to the Statesman, the Merchant, and the Traveller. In fact, there is no condition of life, requiring knowledge as its ornament or support, which must not reckon an acquaintance with this science among the attainments that cannot be neglected. No man, with even just pretensions to general literature, would be violently condemned, who mistook one chemical substance for another, who was incorrect in his botanical classification, or who confounded minute architectural details, but what would be his fate who, in modern times, should talk of Switzerland as a maritime country, or place New Holland near the North Pole? Yet, even such ignorance would not be without a parallel, though certainly without an excuse.

One of the first intellectual wants of man, when he has advanced to a certain point in civilization, is to learn something of his species, and of the globe they inhabit, beyond the contracted range of actual observation. In a few instances (and comparatively they are very few,) this want is satisfied by an adventurous spirit of travel, which spurns the boundaries of our native land, and roams through distant climes, to read the living book of Nature as it is spread before us, whether in its primitive simplicity and grandeur, or modified, and sometimes improved, though often disfigured, by human contrivance. It is obvious, however, that it cannot be the lot of many to have gazed upon the Ganges and the Nile, or to have trodden the wilds of Siberia and the groves of Italy. The great bulk of mankind must look through the eyes of others, and be indebted to the patient toils of the Geographer, who reduces into systematic arrangement the facts that are amassed by actual observation. Travel-

lers are the handmaids of Geography, who collect the precious materials which she disposes into forms of beauty and utility. The stores they bring home, are the scattered fragments of which she constructs her stately edifice. They return like vessels richly freighted with merchandize, which possesses, indeed, an intrinsic value, but which acquires its full worth, only when it comes from the hand of the skillful artificer.

Passing from the general to the specific claims of this science, its importance to every member of a commercial state, like England, is immediately recognised. There is scarcely an individual in this country, whose wealth lifts him above the common level, who may not trace its origin to foreign commerce, or reckon that among its existing sources. Survey the whole globe, and wherever there is a spot that can offer a channel for traffic, there the British flag has floated. Every accessible shore has been visited by her ships; she has planted her colonies in every region; and so vast are their ramifications, that it may be said, without hyperbole, the sun never sets upon her possessions. Of what incalculable importance, therefore, must it be to her merchants and manufacturers, to her statesmen and legislators, that works should exist which may instruct the former, how their skill and enterprise may be most successfully exerted, and the latter, how national advantages may be best secured or attained. Hence, the numerous systems of Geography which have appeared at various intervals, and hence, too, the constantly growing necessity of supplying fresh ones as the former grow obsolete. This last consideration leads to an exposition of the motives which have prompted the present undertaking.

If ever there was a period when, from political causes, which have so mighty an influence upon all that is not permanently fixed by the hand of Nature, a new system of Geography had become necessary, the present may be named as that era. The dismemberment of the colossal empire of France under Buonaparte, the resumption of some territories by their former sovereigns, the annexation of others, the destruction of old boundaries and the formation of new ones, the restitution and transfer of colonies, and, in fact, the total re-modelling of Europe and its dependencies, so completely cast into premature antiquity all existing geographical works, that they were at once deprived of more than half their value.

These changes were too numerous, and too intricate, to become objects of memory; while, on the other hand, the various acts and treaties in which they stood recorded were not only difficult of access, but necessarily involved in much complexity. The reader of the daily journals even, found himself in the midst of unexpected doubts and difficulties. He had much to unlearn, and much more to learn, before he could

venture to generalize his views, and reason upon his knowledge. The same embarrassment was felt by every man who extended his thoughts beyond the circle of his own country. Nor could he easily surmount these impediments. There existed, indeed, many detached and scattered publications, where, after much trouble he might find the information he wanted ; but these were not at all times accessible ; even when accessible, there was not always leisure or inclination to prosecute the inquiry. Their very multiplicity, in fact, was an aggravation of their evil, for it became doubtful which was the best authority to consult.

This acknowledged deficiency, thus suddenly produced by the course of political events, had already excited general regret, and a unanimous wish for its removal, when the author of the present work, finding no other attempt likely to be made, resolved to undertake the arduous enterprise. His previous studies and pursuits had certainly not disqualified him for such a task, and he relied with some degree of confidence upon that success which patient industry, and steady perseverance, promised to secure. Fully impressed with the magnitude, the difficulty, and the importance of the design, his anxious endeavour has been to render the execution of it correspondent to that impression. If, on the one hand, therefore, he abstains from an arrogant assumption of merit, which it belongs to his readers to determine ; on the other, he will not affect a diffidence, which, if it were real, ought to have wholly deterred him from the attempt. He can conscientiously affirm, and refer to the work itself as a voucher, that while he has neglected no known source of information worthy of being consulted, he has also spared no pains in compressing his almost innumerable materials into such a form as will more than answer the purpose of the general reader, and repay, he hopes, the perusal of the man whose liberal range of knowledge would soon turn with indifference from mere superficial details. He frankly avows this to have been his object, and thus, at once, puts in competition what he has accomplished, with what he intended. If his labours shall be crowned with success, they will reap their best reward. If otherwise, he will still have the consolation of knowing he has failed under the pressure of no ordinary difficulties, and that he has produced a work, which supplies an important desideratum in the current literature of the age, while its utility can, in reality, be impaired only by the production of a better.

It is observed by *Bolingbroke*, that the human mind is capable of conceiving many enterprises which it is incapable of performing ; and hence it will be easier, perhaps, to show what a complete System of Geography should be, than to produce it. The term is here used in its modern and more ample signification, and, so used,

it embraces almost every consideration affecting man in his moral and physical relations. It borrows something from history—something from philosophy—something from politics, and much from science. The Geographer must not merely be competent to describe what the etymology of his labour would alone suggest, the circles of the earthly globe, and the situation of its various parts; he must not be content when he diversifies this barrenness of topic with delineations of seas and oceans: his task is still more complicated,—his function is of a still higher class. He must trace MAN, in every clime and region, through all the gradations of his intellectual, social, and moral being, from the woods and caves that first received him—from the pathless forests and the sterile deserts that were his primitive abodes—to the palaces and turretted cities—the spacious marts—the cultivated plains—and the retreats of piety—which they have been succeeded.

It would be difficult, indeed, to specify any one important topic connected with these main features of the habitable and civilized globe, which can be properly disregarded by the modern Geographer. He may be said literally to begin at the beginning, and to end only where art and nature end. When he sits down to delineate a country, his first labour is to explore the origin of its name, by the aid of antiquarian or philological research. He then determines its superficial extent and its natural or artificial boundaries. His next business is to unfold the history of its original population, and to record the various foreign and domestic tribes, from whose mingled sources the actual inhabitants derive their descent. This inquiry often repays the labour it exacts, by unexpected illustrations of modern facts, and by elucidating practices which would otherwise excite only a vague and unsatisfied curiosity. Intimately connected with these, are the collateral inquiries into the ancient territorial divisions of the country, its distinguishing historical features, and the relics of former ages, which denote the vicissitudes it has undergone.

When the geographer has delineated what may be considered the historical features of a country, there still remains for his pen the characteristics which Nature herself has impressed upon it, and by which it is distinguished from, or assimilated to, other regions. These obviously range themselves under the several heads of climate, soil, rivers, lakes, mountains, forests, botany, zoology, and mineralogy, with some collateral divisions which need not be enumerated. Each of these subjects demands minute and careful research, and much patient application, not only to collect what is known, but to verify what is collected. Essentially, their details are dry and technical, but when connected, as they are capable of being, with the destinies of man, with objects of national enterprise, and with the elements of national prosperity, they imbibe a portion of that

interest which belongs to whatever involves the advancement of human nature ; and, the writer who neglects to give them this attraction, imperfectly understands, or inadequately executes, his task.

Having thus conducted the reader through all the memorials of the past, and placed before his eyes the permanent and external characteristics of the present, the Geographer proceeds a step further, and imparts a sort of vitality to his theme, by portraying the living habits, manners, and pursuits which prevail. The predominant religion of the inhabitants, with the principal sects that branch from the main stem—the form of government—its Laws—the political importance, with reference to other States—the elements of that political importance, as consisting in naval and military strength—the revenue—and the population of the country—come next under consideration. These embrace a wide field of description, and demand no slight effort to reduce to symmetry, so as to avoid prolixity, without falling into the contrary error of becoming obscure from brevity. Nor do they constitute the least interesting portion of the work ; for they tend to display the vast energies of the human mind, and its almost illimitable power, when guided by religion, science, and philosophy.

These guides, however, conduct to other refinements of civilized life, and to other demonstrations of their influence, which it is the business of the geographer to unfold. In the prevailing Manners and Customs of a people, he must show the effects of moral, political, and local causes, operating not upon individuals, but upon communities, and producing, in defiance of all the impulses of passion, and all the distortions of prejudice, a certain degree of identity, and of conformity in their habitual actions. This branch of his labour embraces the various religious ceremonies of a nation, in connexion with the three great epochs of human life, birth, marriage, and death ; and the peculiarities of food, as modified chiefly by climate, temperature, position, and commercial enterprise ;—a theme full of matter for curious investigation, when we consider that an English peasant, for example, rarely sits down to breakfast without partaking of the produce of the two extremes of the globe. Nor is it less curious to analyze, in the amusements and dress of a people, the ceaseless flux of all that is human,—an indubitable proof that the changes of the rolling year are not more essentially a part of our physical system, than are these mutations of our moral. “ Man—and for ever ! ” emphatically exclaims the poet ! There is nothing permanent in him, or about him. His vernacular idiom—the language of his forefathers—becomes almost a foreign tongue, after the lapse of a few centuries ; the arts and discoveries of one age, are the grave wonders of the next ; not as prodigies, but as the mere infantine exploits of intellect ; and thus generation succeeds gene-

ration, and the solemn plausibility is never destroyed, that mere progression is improvement.

It is the province of the geographer, however, to record, rather than to elucidate, these interesting facts in the history of man, and to combine with them every accessible information, relating to the actual station which he occupies in society. In proportion as that society is highly civilized, his topics are multiplied, and he has to describe the various and often stupendous works of human power, as exhibited in canals, roads, bridges, docks, arsenals, and all that skill and science can perform, stimulated by munificent rewards. Intimately connected with many of these undertakings, are the manufactures and commerce of a country, which, in fact, beget the necessity for them, while they, in return, enlarge and improve the sources of their own existence.

In proportion as this outline of the subjects that belong to a modern system of Geography is well filled up, or otherwise, will be the excellence or defects of the system itself. The time has been, when if we could suppose the capacious and prophetic mind of a *Bacon* to have laid down such a plan, it must have remained, as many of the anticipations of that extraordinary intellect did remain, a legacy to the science and knowledge of future ages, for its fulfilment. A century ago, it would have been impossible to execute such a work, for though the progress of maritime discovery had been great, the navigators who explored distant, and till then unknown, regions, were too deficient in the requisite scientific attainments to give precision to their discoveries. Nor was this their fault: it was the fault, if it may be so termed, of the times in which they lived; or, to speak more philosophically, the practical spirit of naval enterprise preceded the march of the human mind in perfecting its theory. Hence, the most absurd blunders, and the most incongruous deductions are to be found in the works of all our early navigators. But this reproach no longer exists, and the geographer who adopts any of these exploded errors betrays only his own ignorance. D'Anville may be considered as the first who imparted to geography the dignity of a science, and he was successfully followed by Gosselin, Barbié de Bocage, and others. In England, Major Rennell was a rival worthy of D'Anville; while the name of Arrowsmith must be mentioned with respect.

Without enumerating all that my predecessors have done, let it suffice to observe, that the last half century has teemed with valuable materials for the compilation of a complete geographical system. The rapid progress of science and discovery, both by sea and land, within that period, has left comparatively few important points

undetermined. Individuals have been stimulated by self-born ardour to explore foreign regions.—Societies have been instituted for the same purpose, and the governments of England, France, Russia, and the United States, in particular, have patronized similar enterprises. The result has been an accumulation of facts with respect to the physical, moral, and political condition of those countries that were previously but imperfectly known, and with such materials it is obvious, that the greatest difficulties the geographer can experience must be selection, compression, and arrangement. It is true, the whole harvest is not yet gathered in. There is still an ample field for future discovery. The central parts of Africa, the western territories of North America, and the regions that spread towards the North Pole, await the enterprise of intrepid travellers. Nearly the whole of Mexico, too, as well as South America, remain but imperfectly known, in consequence of that selfish jealousy which made the Spaniards interdict all communication with the empires they had subjugated. While the series of revolutions, however, which have wrested these countries from the monkish and tyrannical grasp of Spain, give freedom and happiness to millions of human beings, they will also spread before the man of science, the philosopher, and the politician, exhaustless stores of intellectual wealth. But it is not because those who come after us shall enjoy what we have not, that we should neglect what we have, or repine at its amount. The former would be folly, the latter ingratitude. At no antecedent period, have there existed such ample means of compiling a correct and comprehensive system of Geography as at present, for besides the information which had been previously amassed, the interval of peace since 1814, has been diligently employed, by various learned and enterprising individuals, in making large additions.

It would be an irksome task for the author of the present work to expatiate upon the qualifications necessary to a skilful use of these resources. He could not do so without indirectly leading to the inference, that in describing what a geographer should be, he was detailing his own pretensions. He will venture, however, to remark, that the particular studies which have engaged his attention for many years, are of a description that must necessarily tend to fit him for such an undertaking, at least in reference to some of its most important divisions. He trusts, too, he shall stand absolved from the imputation of arrogance or egotism, if he presumes to advert, with something like confidence, to the introductory matter, which contains a series of dissertations upon subjects scientifically connected with the main design, but some of which, as far as his knowledge extends, have never before been attempted in the same way. He frankly confesses that they have received at his hands a degree of labour and attention which makes him anxious they should be found to possess a correspon-

dent merit in their execution. As far likewise as it may become him to speak on such a topic, he would indulge the hope, that the rest of the work will not be denied the praise of diligent and accurate research, of suitable relative proportions, of clear arrangement, and of copious information. In all his arduous, and protracted investigations, authenticity of facts, utility of materials, and perspicuity of description, have ever been his anxious care. Errors there doubtless are, for they are inseparable from an undertaking of such complicated and various details ; but he trusts they are such as the most rigid criticism may tolerate, in consideration of the acknowledged difficulties that were to be encountered. With this single appeal to indulgence, and with the consciousness of having spared no efforts in his power to bestow, he submits the result of his multifarious labours to the decision of an enlightened public.

ROYAL MILITARY ACADEMY.

INTRODUCTION TO GEOGRAPHY.

GEOGRAPHY, according to the import of the original words (*γη*, *the earth*, and *γραφω*, *to describe*,) from which it is derived, is a description of the earth's surface ; but the enlarged sense of the term, which custom has long authorized, includes a general description both of the inhabitants and productions of the terrestrial globe. The field of discussion which it consequently opens is so extensive, and the topics of inquiry it suggests are so numerous and diversified, that division and classification are essential to a perspicuous view of the subject. We shall, therefore, arrange the various branches of geographical knowledge under the following general heads.

1. *The History of the Origin and Progress of Geography.* Under this head, we shall endeavour to trace the principal accessions it has successively received, from its first dawnings as an art to its present period of comparative perfection. The interest and utility of this division are equally obvious. It will tend effectually to eradicate those errors which have interwoven themselves with the truth, and show the authority upon which the various regions of the world are now delineated.

2. *The Mathematical and Astronomical Principles of the Science.* The figure and magnitude of the earth, its diurnal and annual revolutions, the cause of day and night, the succession of the seasons, the method of determining the positions of places on the earth's surface, and the comparison of linear measures, with the construction and use of Maps, will be familiarly explained in this section of the work. These are evidently necessary as the foundation of a scientific acquaintance with the various topics embraced by general Geography.

3. *Physical Geography.* Under this division, the principal features in the aspect of Nature, by which the diversified regions of the globe are distinguished from each other, will be delineated, and their agency on its inhabitants and productions portrayed. This will not only develope many interesting particulars, but afford great facility in forming a right comprehension of the more detailed accounts, and local diversities of the subject.

4. *Civil and Political Geography.* To the various subjects which naturally fall under this head, the present Work will be chiefly dedicated. To this general branch the previous divisions are properly introductory ; yet the topics it includes are so numerous, that they cannot be advantageously treated except in detail. All, therefore, that can be attempted in this INTRODUCTION, is a general view of the characteristic features of Society, as it exists under different stages of civilization ; the influence which the principal physical and moral causes have on the formation of the human character, the promotion of arts, science, and literature ; and the re-action of these on the welfare of Society.